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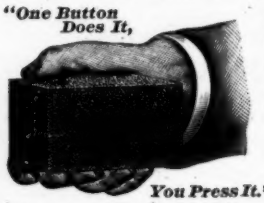

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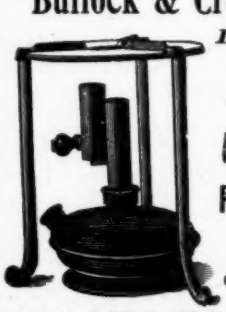

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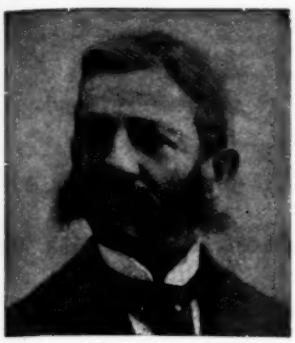

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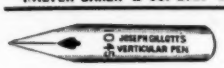

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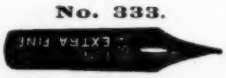

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A Weekly Journal of Education.

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The business department of THE JOURNAL is on another page.

All letters relating to contributions should be addressed plainly, "Editors of SCHOOL JOURNAL." All letters about subscriptions should be addressed to E. L. KELLOGG & Co. Do not put editorial and business items on the same sheet.

Partial Development.

A large portion of the people of this country, and among them many teachers, hold fast to the delusion that Religion must be kept out of the public schools. The schools, some of them say, must confine themselves to the communication of knowledge and drill in practical arts. Others who believe in a higher conception of the object of the schools say that they must educate children, with the proviso, however, that this education is to be wholly secular. The secular education they have in mind is opposed to religious education, or at least apart from it. This certainly is a perversion of the purposes the founders of the American common school system had in view and it has worked much mischief. Any system of education that excludes religion, as if there were no connection between the child and the Infinite, as if he possessed no religious feelings, is incomplete.

In a pedagogical work published in Scotland about fifty years ago, Dr. J. P. Nichol has a few terse remarks on partial development of this kind. His words are well worth pondering over. He says:

"The human mind was not made for any man's special objects, nor for society's either; no man, in educating that mind, is entitled to say, this thing is of importance, or that thing is of importance, and to cast thereupon one or other faculties or dispositions aside. The mind was formed by the Eternal, for purposes stretching into infinite ages, amid which our present life, reckoned as part of our entire existence, dwindles into the merest point; and there is no question open to us—seeing that we cannot pierce the mists that environ this life, and trace the exact history of humanity through these great infinitudes—there is no question open save one, viz., how can we best perfect the human spirit in this present sphere, endowed *as we find it*, with certain fundamental dispositions requiring to be developed and informed? No partial education ought to be received in place of the full and practical reply to this inquiry—not even though we may not understand the precise or final import of some disposition, whose reality cannot be questioned. There is not one, indeed, which does not evince many of its objects and tendencies, by the production of separate enjoyment, even with in this most limited sphere.

* * * Those, however, are only minor considerations; the point we have to do with is this, that a certain mind exists in man—a creature whose being is begun only here, and whose prospect extends into a boundless future, and that no human wisdom, and no consideration, either for this world or the next, can authorize us to suppress, or decline to unfold, what an Omniscient Creator has summoned into existence."

What Sort of Teachers?

The principal of a private school applied to a noted teachers' bureau for an assistant and was asked, "What sort of a teacher are you in search of?" As he was evidently surprised, the manager explained. "Teachers are of all sorts, you know;" he then went on to say, "Now here is a young man who seeks a moderate salary, who will be worth in the right place twice what he is paid. Here, too, is another just out of Yale university, a showy man who wants a good salary to begin with, and who will be quite popular and do a good deal of drill work, but leave no permanent impression. Some principals don't want any permanent impressions left. Here is another who is a mere mind-packer, and so on."

The principal stated that he wanted a young man of fair scholarly attainments, one who could attract young people, and make the subjects of arithmetic, geography, and language interesting; and especially who should cause them to grow up cultured and high-minded, scorning tricks, lies, and laziness. "This may seem to call for a natural teacher," he said, "but man is naturally a teacher."

The manager agreed to this, but said this sort of teacher was rather scarce; it has of late years become quite the thing for a young man to look mainly for the money reward, and this gives a money ring to the entire man; those who seek for money mainly intend to stay as teachers but a short time. It is one thing for a teacher to denounce lying, for example; it is another thing to form a desire to be truthful.

The principal finding the manager to be quite different from what he had expected asked, "Are there none of the old sort left? It does not seem as if an angel was asked for."

"The sort you ask for exist, but are not called for so much as formerly. Another principal just left me who desired a man to teach military tactics, some Latin and mathematics, spelling, reading, penmanship, the sciences also, but he said nothing about the power of forming good habits. I don't think he cares about that. Probably more than half are of his sort."

The principal hastened to say he wanted a young man of good scholarship.

"So I understand; not a mere goody-goody. This sort don't form character. There is a strong relationship between the character-forming power and good scholarship. Yet I have known persons of moderate scholarship who were powerful as builders of character, but they steadily increased in knowledge."

The principal said the best teachers he ever had were of the student order, always studying.

"Now I have a young man on my books who has the making of a good teacher in him, the son of a farmer, got ready for college mainly at home, while there mainly supported himself by singing and lecturing; he has his grappling irons on right principles. That man you could trust with all your money. He cannot but succeed. His name came up when you began to speak."

Psychology in the Normal School.

By M. V. O'Shea.*

While in our own country it seems that the normal school must continue for some time yet to provide opportunities for general education, still it properly belongs to the class of professional or special schools, as does the school of medicine, of law, of civil engineering, or of any of the arts and professions; and its particular province must be to lead its students to become acquainted with all that body of information, both as to theory and art, that is directly related to the work of instruction so far as this is undertaken in the public schools. Since education is concerned with consciously stimulating and directing aright the intellect and character of pupils, it follows that the one who proposes to teach must understand what agencies are best adapted to accomplish this aim, and how these may be used to the greatest advantage at every step in the pupil's education. This implies that the aim of psychological study in the normal school should be to lead the teacher to understand:

(1) The method of the learning mind, how it learns, whether the learning of special subject-matter confers general or only special power, whether all intellectual activity may be reduced to one fundamental principle, or whether each faculty, so-called, has laws and methods peculiar to itself, etc.

(2) The relation of the means of school government and discipline and of intellectual training to the development of emotional and volitional characteristics and tendencies; that is, to the formation of character.

(3) The limiting and determining influence of heredity and environment, and of physical types and conditions upon the intellect and character of school children. At the completion of her study of psychology the teacher should be prepared to take the pupils in her schoolroom and discover the principal physical, intellectual, emotional, and volitional factors that have made them what they are, and that determine their capacities and dispositions; and she should know how to deal with each factor if she would develop or change any personality as she finds it.

This determines the scope of the work to include the study of all those conditions that will enable the teacher to employ the material of instruction and to organize her government and discipline in the class-room to the best advantage in training the intellect and developing moral character. To accomplish this there should be careful study of the following principal subjects: The influence of physical types and conditions upon the intellect, emotions, and will; the relation between mental conditions and activities and their physical expression; the determining influence of heredity and environment upon child-nature in all its aspects; the nature of and connections between perception, apperception, memory, reasoning, and imagination, and the desirability of viewing all these as phases of the one general process of apperception; the influence of interest upon intellectual activity, and the tendency of experience to create and determine interest; the nature and kinds of emotions and will, and the connection between intellectual training and emotional and volitional activity; the relation between the "circle of thought and character; and finally, the psychology of individual and social life in the environment of teacher and pupils.

The method of study should be concrete, in the analysis of experience, in the observation and study of individuals in the student's environment, and of pupils while engaged in the regular work of the class-room. A text may be used as a guide and to aid in stating principles that have first been observed concretely, or that may illuminate and verify facts that can be observed. When such a text is used its subject-matter should treat of educational rather than of general or pure psychology. Finally, there should be much definite, practical work in the study of children so that the teacher may better appreciate child-nature, and may be able to determine the capacities of each pupil for the work of the class-room.

*Synopsis of paper read before Normal Department, N. E. A.

Music in Relation to Other Studies.

Abstract of paper by Miss Sarah L. Arnold, supervisor of schools, Boston, Mass., before department of Music Education, N. E. A.)

Two strong tendencies, in opposite directions, may be marked in the education of to-day. One is the tendency toward separation of studies,—specialization, as evinced by the new impulse in departmental teaching. The other is the attempt to centralize, to co-ordinate,—represented in a high degree by the Herbartians. Both tendencies must force us to inquire into the interdependence of the subjects taught in our schools. And in pursuing our investigation we naturally arrive at the question, "What is the relation of music to the other branches of study?"

A thoughtful observation of a complete exercise in music will convince us, first, that the study has a vital relation to the other subjects, through its effect upon the fundamental conditions of all study. And second, that it reacts closely upon the specific work in certain branches—as reading, language, nature study, and literature.

Observe a class in music. See how the success of the exercise depends upon their working together. Now they sing in unison, in perfect time and tune. Now they are learning the more difficult harmony, where the failure of one part brings inevitable discord to all, where the success of the whole rests with individual. Estimate, if you can, the value of such unison, and each higher still, of such harmony, in the discipline of the school, where the great lesson to be learned is the power of working together—the talent of keeping step, the secret of co-operation.

Again, follow the pupils into the school-room, after a free, noisy recess on a hot day. Watch the transition from the free and uncontrolled movement of the play-ground, to the quiet attention of the school-room, through the medium of a song. Differences are forgotten—quarrels are healed, license gives way to self-control, roughness to gentleness, under the influence of the music. Ah, if teachers but knew how to use the song, we should hear less of the rod. In the harmony of interests begotten by music, wilfulness and strife are forgotten. In both senses of discipline, the philosophic and the common school use of the term, music is of inestimable value. And good discipline is indispensable to all study. The inference is obvious.

Again, music develops in a marked degree the power of concentration and the habit of attention which are essential to study. Have we measured the achievement of the little child who successfully sings a strain of music? He must recognize shape and relative position of notes, translating the characters into sounds of certain pitch and length. Later, he must in addition associate words with these tones—in proper measures and with true expression, and perhaps do this when others are singing other words to other tones. Compared with the attention demanded by simple reading, this exercise is very difficult. It demands attention of the highest order—a concentrated power of attending to one's own business, which must inevitably tell favorably upon all other phases of work.

But again, and quite as surely, music helps in special as well as general lines. Every lesson in sight singing makes the sight-reading easier to the child, for both require the exercise of the same powers. But further than this, music helps, as no other agent can, in the expression of thought and feeling. I would plead, on this ground, for a closer association of music and nature study, and music and literature. The choicest songs should find a place in the nature lessons, and the thought in the song should be clearly expressed. Snow and rain, seed time and harvest, flower and bird, sunshine and storm have their messages for us, which should sing themselves through our lives, so that we may make "melody in our hearts" unto the Giver of all life and beauty. And in like manner the exquisite gems of the poets, when set to sweet music, will echo and re-echo through the chambers of the soul, in darkest hours of need, if they have been set in our childhood experience. In the tumult of the busy street, amongst the clanging of machines, or in the more wearing clash of striving, clamoring passions and ambitions, the sweet old song is suggested to us by some wandering musician's strain, some boy's whistle, or some child's clear voice. And all unconsciously we become deaf to the clangor, the clashing, the tumult, and find ourselves quietly walking by still waters, in paths of peace.

Bind fast together, then, the music and the poem, and let Nature express herself through both. Make glad the heart of the child, so that he grows happy as all unconsciously he grows wise,—and so bid the fountain of the man's memory to pour forth the sweet associations of a well taught and truly inspired childhood.

Higher Education in the U. S.:

Its Future Organization.

In a paper read before the department of higher education (N. E. A.) Professor Richard T. Ely, of the University of Wisconsin, discussed "The Future Organization of the Higher Education in the United States," in which he said, among other things, that the higher education in this country at the present time is a term which includes the education of the college and the university and excludes everything below the college. But we have in the higher education, as thus understood, to do with two very distinct kinds of instruction: The college in its strict sense is concerned with disciplinary studies; its purpose is general culture; it carries forward the work which the high school or the academy has begun and in much the same spirit. The essentially similar nature of the work of the high school and the college is shown in the German *Gymnasium*, in which both are combined and the pupil passes from what we call high school studies to those of the college without a break. Owing to the thoroughness of the German *Gymnasium*, its graduate is ordinarily better prepared for the more advanced work of the university than is the graduate of the American college.

The university, strictly speaking, begins where the college leaves off. University work is advanced special work, and not work pursued primarily for general culture. It has a definite aim. As a rule it is professional work in the widest sense and preparatory to the professions of law, medicine, theology, or the teaching profession, or the public service as a profession. The work of the true university includes further a large amount of original investigation. Its aim is not only to diffuse education, but also to extend the bounds of knowledge. University education, furthermore, is distinguished by its broad and liberal spirit. The pursuit of truth in the university is free. In the words of a report unanimously adopted by the regents of the University of Wisconsin, "We cannot for a moment believe that knowledge has reached its final goal, or that the present condition of society is perfect. . . . In all lines of academic investigation it is of the utmost importance that the investigator should be absolutely free to follow the indications of truth, wherever they may lead. Whatever may be the limitations which trammel inquiry elsewhere, we believe the university should ever encourage that continual and fearless sifting and winnowing by which alone truth can be found."

The higher education in the United States at the present time is in a confused condition, owing to the fact that there are no clearly defined lines between the high school and the college on the one hand and between the college and the university on the other. The attempt to attach to the closing years of a college education what is really university work and the inclusion of much college work in our universities, result in a lack of thoroughness in preparation in every grade, and a failure consequently to reach that excellence which the capacities of those receiving the instruction would warrant. . . . In the professional schools, so-called, a still worse condition of things confronts us, the preparation of a college education being seldom required. A conspicuous difficulty in these special schools is the necessary absence of a liberal university spirit.

The future organization of the higher education in the United States, if its development is to be satisfactory, will bring order out of confusion in the particulars named. The expression "The higher education" suggests a part of a larger whole, and it must be so conceived if it is to bring the greatest success. It is most fortunate that the whole education of the citizen has been conceived by the entire West as a public function. Any educational system which does not embrace the university is incomplete and radically imperfect. The state university is the best expression of democracy. It is the product of the whole people acting together for the noblest aims. It is evident that the more perfect organization of the higher education will compel a separation between college and university instruction and the raising of the standard of professional schools. It is manifest also the standard of the high schools must be raised; but as it will probably be a long time before they include all that education which is designed for general culture, there is a gap which may perhaps be bridged by developing the normal schools into colleges in the strict sense of the term and by the fuller co operation with the state universities of those colleges on private foundations which are now attempting to do university work with very inadequate endowment.

Professor Ely closed with the following quotation from the writings of the late Professor Huxley, as expressive of the spirit which should govern the future development of the higher education in the United States:

"I believe no educational system will be worthy of the name of national, or will fulfil the great object expected of it, unless it be one which establishes a great educational ladder, the bottom of which shall be the gutter, and the top of which shall be those universities of which we are justly so proud."

Cultivation of Public Spirit.

(Extract from address by William H. Smiley, principal of East Denver high school, and president of the department of Secondary Education, N. E. A.)

"How can the students of a secondary school be made to feel that they form a large social body, existing not simply for the cultivation of intellectual power in the individual, but for the realization in the mass of certain ideal standards of feeling and conduct, to which the individual, consciously or unconsciously, submits, and which he is careful of offending; in other words, a public opinion which each student is conscious of shaping and in which he sees reflected his own noblest aims and impulses?" I am confident that this is a question as worthy of careful study and as easy of solution as that of the relative educational values of physics and chemistry, or their proper sequences in a course of study.

It is perhaps hardly strange, in a period so marked by the spirit of individualism as are all lines of intellectual activity, that this influence should be so strongly felt in all problems of school organization. Realizing as never before the preciousness of individuality and the necessity of conserving it, we have bent all our energies to the task of devising ways and means for its development, granting privileges to the individual student considering or calling his attention to the duties owed in return to this social body to which he stands indebted for his growth in culture. This tendency appears in the high value set upon individual versus class instruction; it appears in a high school program recently published where I read that a pupil regularly promoted may "at the request of parent or guardian and with the approval of the principal, study any subject in the 'course of instruction' which the daily program will permit;" it appears in this remark recently heard from the lips of the professor of pedagogy in one of the greatest American universities, that he did not know of a single subject of the secondary school course that he would regard as absolutely essential.

Now all this may be very right, if the school that gives the greatest freedom to the individual student's development serves with equal care his social instincts, but there can be no question that the specializing spirit often leads to the cultivation of personal power at the serious loss of personal sensitiveness to the just claims of the school upon his active, public support of those principles affecting conduct that receive cordial assent from the majority of students when presented to them as individuals. Yet how often when we remind a student of St. Paul's affirmation that "No man liveth to himself," are we met by the reply, "I can answer only for my own action. I have no responsibility for those of others." In brief, we have as yet found no way of focusing the best sentiment of the whole school body in a positive manner upon the evils we would reform. Yet there are no societies among the students that bring to their work greater energy, enthusiasm, honesty of purpose, and in the main better judgment in execution, than high school organizations.

To make clear the application of my general statement, let me give a single illustration. Belonging to the two high schools of this district is a cadet batallion. Its commissioned officers are elected by its members; its non-commissioned officers receive appointments by united action of the commissioned officers, and the major of the battallion, the present principal of the Manual training school. The cadets have rarely failed to elect boys of honorable and forceful character to important positions. Certain of these commissioned officers sit as a court martial for the trial of offences of various kinds. It has been my privilege to be present at some of these trials. The boy who is summoned before the court martial for the first time is inclined to regard the whole affair as a huge joke from which he will get some fun at the expense of his superiors. He, consequently, appears with a jaunty look and anything but a military bearing. The dignity and seriousness, however, with which he is met, the sharp criticism of his dress and unsoldierly attitudes into which he constantly falls sober him very quickly. He has come most likely with flimsy or feigned excuse, the flaws in which soon appear beneath the skilful examination of his judges. Often, dropping his show of bravado, he pleads guilty, and is dismissed, sometimes reprimanded, sometimes fined and always with most excellent advice as to his future conduct. He walks out with a far more business-like air than he entered, and often with a sense of shame and mortification at his foolishness. The boy may appeal from the decision of the court martial and bring his case before the batallion at its monthly meeting; its decision, however, is rarely reversed. Thus the cadet brings himself, or is brought by his fellows, to the recognition and practice of soldierly bearing, honorable dealing, and unquestionable obedience. Now, I sincerely believe that in this self-governing organization we have a type that may be imitated in form and spirit for the maintenance and preservation of many other ideals

Cheating in examinations has disappeared from several colleges, notably from Princeton, because the student body by public action decided that if they were left unwatched the man who was

dishonorable enough to cheat and was detected by his classmates must sever his connection with the college. A conclusion voluntarily accepted by several offenders. You object, perhaps, that we can hardly expect of the high school student what we may of the collegian. I answer that much more may be expected in the way of positive action if students be guided rightly and encouraged to its use. Boys and girls of high school age are no casuists; with them an action is absolutely right or absolutely wrong. They weave no fine spun excuses for themselves over the mixture of good and evil in yielding to inclination; they do wrong deliberately sometimes for the purpose of judging you severely if you overlook their offences. They object to no punishment of which the school approves, but you will hardly get them to do that which they believe their mates would not accept as just. It sometimes becomes necessary to discover their feelings toward a movement requiring their co-operation Have you ever noted with what marvelous rapidity by glance of eye they take stock of each other's position before hazarding opinions? Their appeal is not to the reasonableness of your proposition, but to their classmates' conclusion

In this universal appeal to a common consciousness and sentiment of mutual interest, I believe we find the strongest force for the upbuilding and controlling of individual character. Therefore encourage its growth by giving every possible opportunity to the school for united and representative action. In this way only can the school learn to co-ordinate the action of its heart and its brain, its feeling and its intelligence. Trust your students and you will have no reason to fear in them lack of taste or wisdom. Let them learn the strength and weakness of concerted action, better mistakes now than when trying to serve a large community. We err in giving them no credit for increasing power of social action, keeping pace with their growth in judgment. If we expect mature society to cleanse itself of cheating, lying, stealing, and impurity, we cannot begin too early in teaching that these evils entail more serious consequences upon school society than upon the individual offender. When students once realize this your work is practically done. Later they go forth hopefully, with some ability to make their knowledge efficient in a society of which the school is but a faithful counterpart.

Vocal Harmony:

A Plea for an Oral Language with which to Express Our Thoughts in Music.

(Abstract of paper by H: E. Holt, supervisor of music in public schools, Boston, Mass.)

There are three elements or conditions which must be present, and each enter into and form a part of all true objective teaching.

First.—There must be an object of thought to be presented to the mind.

Second.—There must be an oral name by which the object is known.

Third.—There must be a written sign to represent the object.

Any teaching which does not embrace and recognize these three important conditions or elements, cannot be called intelligent teaching. Before educational principles can be applied to teaching the invisible realities in music, a basis must be established which shall correspond to the basis upon which these principles are applied in teaching other subjects.

In teaching the subject of tune in music, there must be a definite and distinct musical object of thought to be presented to the mind. This object cannot be a single tone; because a single tone unassociated in the mind with other tones has no musical meaning. It is only when tones are considered in their relation to one another in the mind that any musical effect is produced.

The natural order of presentation in the study of every object in natural history is the following:

First.—The object as a whole is observed.
Second.—The parts of the whole are considered.
Third.—The parts in their relation to the whole.
Fourth.—The parts in their relation to each other.

The two tones forming the octave, constitute the object or whole which contains within its limits the elements for all of the effects found in music in the study of tune. Each part of every natural object has its function, which it performs as a part of the whole to which it belongs. This principle applies in the construction and teaching of every natural object in the entire universe. When we are so familiar with any object and its parts, in all of their relation to the whole, and to each other, and that each part causes the whole or all, other parts to be associated in the mind in their proper relation to that part, we may be said to be familiar with or to know that object. Without this definite knowledge we cannot be said to know an object thoroughly. The laws of the mind are fixed and unvarying. In teaching any subject we must present it in accordance with these laws, or we deceive ourselves if we think we are really teaching.

My laboratory for scientific investigations in the art of teaching music is the human soul. The instruments with which I make all of my experiments are the laws of the human mind.

Within this laboratory and with these delicately adjusted instruments, I solve all of my problems. My system of vocal harmony is based upon the great truth that the tones of our tonal system are established in the Divine mind in a certain fixed and absolute relation to one another, governed by Divine law, as are the planets, within the human mind (which is a reflection of the Divine mind). I find that the tones of our tonal system will adjust themselves in a fixed and absolute relation to each other when mental activity is awakened upon them in the natural order in which the mind gains a knowledge of all things.

This furnishes a basis upon which an application of educational principles can be made in teaching music, and it is the only foundation upon which it is possible to base a practical and scientific method of teaching the subject.

Music, from the pedagogical standpoint, and for the purpose of teaching, must be considered an object in natural history as much as any insect, animal, plant, or flower, if we are to find a basis for the application of the same mental laws in teaching the subject. This simplifies the teaching of the subject wonderfully, and furnishes a basis for the application of an oral language, which makes the invisible realities in music as tangible as definite objects of thought as colors or numbers, and as easily and successfully taught by the regular class teachers.

Electives in High Schools.

Should They be by Courses or by Subjects?

(Abstract of paper by O. D. Robinson, principal of high school, Albany, N. Y., and secretary of the department of Secondary Education, N. E. A.)

As there is always a presumption in favor of the existing order of things, this discussion should have been opened by those who would attack rather than by those who would defend the system of electives by course of study – a system which we have reached through long years of effort and evolution.

"Electives by courses" means simply this:—that all the subjects which pupils may study are so arranged that each is awarded a certain ratio of the whole time allowed for the completion of a course, and that each takes its place in a given order with reference to other subjects. It is not expected that by this system the pupils of a given grade in one course will be separated from those in another course in studies which all pursue in common. By the course system a principal can arrange his teaching force (which the advocates of the subject system seem to regard as unlimited) so as to secure the best possible results. This system does not prevent pupils from taking subjects in other courses than those in which they wish to graduate, or limit all to the same period for the same amount of work. The procrustean element, so much objected to, is an abuse and not a necessity of the course system.

On the other side, "electives by subjects" means that the school authorities shall simply prescribe the list of subjects that may be pursued (and even this some would delegate to the pupils) leaving order, sequence, and time to the choice of the pupils.

In short, they propose a local option system which, if followed out according to the plan of Dr. Thurber—the chief advocate of this scheme—would result either in an ideal school or an ideal bedlam. The plan seems too absurd for caricature. It is the plan of the anarchist who, because there are abuses in organized society, would have society abolished The advocates of this plan always assume that all the evils of secondary schools would disappear if we were to abolish courses of study. We admit that there are great defects in our secondary school economy, but we deny the efficacy of the proposed remedy. Our opponents, when prophesying the glorious results that would ensue from the local option plan, always seem to have in mind ideal pupils, ideal teachers, ideal boards of education and ideal equipments, but we know that these are not to be had under any system.

In favor of choice by subjects then we have argument and prophecy in abundance. In favor of choice by courses we have results which we maintain could not have been secured otherwise with any attainable equipments, or any supposable pupils.

We are much pleased with EDUCATIONAL FOUNDATIONS. Each teacher in our school is a subscriber and we are steadily pursuing the course with great benefit to ourselves and our pupils. The articles on apperception have interested us very much and we have ordered Rooper's Apperception hoping that we may get more light from it. Yours truly, J. S. GALLATIN.
Supt. of Cainsville, Mo., public schools.

Laboratory Work in Physics.

By R. H. CORNISH.

The history of science teaching in our schools and colleges, and especially the teaching of physics and chemistry, has three well-marked periods. These may be called from the methods used, the text-book period, the lecture table period, and the laboratory period. Throughout the country as a whole we may trace these three periods as we may also trace them in individual schools.

The text-book period was distinguished by the study of science from a book. The book may or may not have been illustrated. Occasionally the study of the text may have been enlivened or illustrated by a number of experiments given in a single lecture or in several lectures. In one case within our knowledge a study of a text-book of chemistry for ten weeks was followed by a course of five lectures illustrative of the subject. This method has the advantage of economy. Little or no apparatus is required. This is always handled by the teacher. The disadvantages of this method are manifest. The student often does not feel that the subject of study has any real existence outside of the book. He is not brought in contact with the object of study. Happily this method is now largely obsolete. It is doubtful if this method did as much good as it did harm. The lecture table method developed from the text-book method and this probably prevails in the majority of our schools, especially for all kinds of elementary work. It has many advantages, and where the amount of apparatus is small and the number of pupils large it is probably the best method that can be devised. The essential features of this method are the study of a text-book with illustrative experiments by the teacher before the class. This is sometimes modified by appointing two or three members of the class to perform the experiments for a given day. By giving the pupils so appointed some additional instruction outside the regular recitation and by taking the whole class in small groups for this work, something more is done for the pupils' good than where the teacher performs all the experiments. By this method the pupil is made to realize the truth of the principles which he learns from his text-book. The concrete illustration is before him and nothing can take its place. The method of having the pupils perform, after suitable coaching, the day's experiments forms an easy transition to the third method of science teaching: viz., the laboratory method.

This method is generally studied in connection with a text-book. In this case portions of the text are studied and then the student passes to the laboratory and performs experiments illustrative of the text studied. How to conduct the laboratory work of a class is a difficult problem and one that each teacher must in large measure solve for himself.

A method frequently adopted is to place all the apparatus designed to illustrate one subject, such as sound, upon the tables of the laboratory, and when the pupils come in they take their places in any convenient order and each performs the experiment for which the apparatus before him is designed. At the next laboratory period the pupils all move along one position so that each has a new task to perform. And thus by the method of "rotation" all the experiments in a given branch are completed. This method has its advantages and its disadvantages. It is economical of apparatus and of janitor work to some extent. For when the apparatus is once in position on the tables it remains so till the subject is completed, thus saving the janitor's work. Then one complete set of instruments is all that is needed for the work of the class. But the disadvantages far outweigh the advantages; for it is necessary to have printed directions attached to each piece of apparatus, or accessible to each student before each piece, or the teacher must spend much time in explaining to all the class all the experiments before any are begun or must have a large number of assistants to explain the matter when the class comes for its work. Then this method is fatal to any progressive development of ideas by means of laboratory work.

In every laboratory course certain experiments must be taken in a definite order. They belong in a series and depend for their intelligent comprehension upon those which have preceded. This doubtless applies to a majority of the experiments given in any laboratory course. Other experiments stand alone and have no close connection with what precedes or follows. Suppose, for example, we are presenting a series of exercises on methods of measurement of length. A natural method would be from (1) the coarse rule to (2) the fine rule, then (3) to the vernier gauge, then (4) to the micrometer caliper, ending, if possible (5) with measurements of microscopic objects. By the rotation method it is certain that four out of five students would begin the first day in the wrong.

The class method of conducting laboratory work seems to me to be the most satisfactory. This plan necessitates providing apparatus for each person or for each group of two or three in the class. Each person or group is expected to perform the same exercise at the same time. This plan furnishes to each member of the class the stimulus of class competition. It makes possible a comparison and discussion of results obtained and what is of greatest importance, it makes possible the systematic development of ideas by means of laboratory work. The teacher explains the apparatus and the nature of the exercise. He calls attention to the particular points to be observed, but he expects each student, whether working alone or with another, to make his own independent measurements and to keep an accurate record of them. After much experimenting in methods I have found the one just described to work admirably and to give more satisfactory results than any other. The chief objection to it, viz.: that of expense, can be met by the selection of experiments that will admit of using for apparatus many articles in common use, such as spring balances, package and letter balances, metric wooden rules, unmounted spectacle lenses, small plain mirrors. It is doubtful even with enough apparatus for each pupil or group of two pupils, if more than eighteen or twenty pupils can be taken care of in a laboratory at the same time by one instructor. There are, therefore, difficulties in connection with the class laboratory method. Besides the apparatus for individual work, there must be time enough alloted to demand careful and accurate work without haste. Much time may be lost by not having things in order and ready for the class when it appears. Time may also be lost by not giving the student proper attention while at his work. The student should always be told where to look.

What kind of exercises should be given to a class pursuing its first course in the laboratory is a question of great importance, and there may be a difference of opinion as to what these should be. First, should the exercises be quantitative or qualitative in character? The answer to this may depend somewhat upon the age of the pupils, but for pupils in high schools and academies I am satisfied that quantitative work is the best. In this work something definite is put before the pupil for him to determine. It is not insisted that no qualitative work should be given to the student. Some work of this class is very instructive and may be very properly given, but as a general rule work of this class should be performed by the teacher for illustrative purposes. Among valuable exercises that may be given to a class and which are not quantitative may be mentioned the setting up of electrical batteries, making a barometer, observation of the process of boiling.

Quantitative work in physics may consist of three kinds of exercises: first, those exercises that have for their purpose the discovery of a law by comparison of measurements made at a series of definite intervals; second, the determination of a physical constant, and third, the verification of laws whose discovery would be too difficult or would take up too much time. The discovery, for example, of the laws of deflection of beams under a varying load; width, length, and thickness, is a good example of the first class. This exercise and others like it can be made truly inductive and become of the highest mental value. Finding the coefficient of friction, the coefficient of expansion of various solids, liquids, and of air, the specific gravity and specific heat of substances are exercises belonging to the second class. Their value to the student depends upon the care and exactness with which they are performed. Exercises whose object is the verification of physical laws are of least value and importance as a means of mental discipline. Not that the knowledge of these laws is of less importance to the student, but the method of obtaining this knowledge is of less disciplinary value. Yet these exercises may be the means of fixing in the mind of the student laws whose discovery would be difficult, if not impossible, within any ordinary time limit. The use of Atwood's machine would perhaps be an exercise of the third class.

In selecting laboratory exercises it is desirable that the result, if it be a numerical one, should be arrived at by several different methods, by two at least. In other words, that there should be a method of verification which the student can apply to his work. In exercises which have for their purpose the determination of a constant, such as the specific gravity and specific heat of solids, the coefficient of expansion of metals and of air; the values given in reference books furnish the means of checking the correctness of the student's work. In many exercises not of the character of those just specified a little ingenuity can devise at least two methods of arriving at the result. These results will check each other. In other cases a comparison of results obtained by different members of the class, with a rejection of those which are manifestly incorrect and an averaging of those remaining will give the best obtainable value.

The following list of laboratory exercises on the subjects of mensuration and the dynamics of liquids and gases will serve to illustrate the points stated above. They serve as illustrations of the course given here which covers all the subjects usually studied in elementary physics. They have been selected from quite a wide range of books and laboratory manuals. The apparatus needed for these exercises is for the most part simple and inexpensive.

MENSURATION.

1. Find (*a*) the volume of a box in cubic chains, and (*b*) change this to cubic inches. Find (*c*) the volume of the box in cubic inches and compare the two values.

2. Find (*a*) the depth and diameter of the top and bottom of a

tumbler and calculate the volume. (*b*) Verify the result by finding the volume by weighing.

3. Find the volume of (*a*) a (brass) cylinder and (*b*) a (wooden) sphere and (*c*) verify the result in each case by finding the volume by displacement.

4. Find (*a*) the contents of a glass-stoppered bottle by weighing and (*b*) verify the result by a graduate.

5. Plot a field, courses and distances being given with protractor, plotting scale, and dividers.

6. Plot a field, courses and distances except one being given. Find the course and distance of the omitted side.

Apparatus needed for the exercises above are: (1) Rectangular box, carefully made, about 6x4x3 inches. (2) Metric rule graduated on one side in inches. (3) Glass tumbler with flat (inside) bottom. (4) Platform balance (Harvard). (5) Brass or wooden cylinder about 3x1 inches. 6. Wooden or celluloid sphere 1 inch diameter. (7) Graduated cylinder 250 cubic chains. (8) Glass-stoppered bottle 2 or 4 ounce salt mouth. (9) Protractor and scale in one piece. (10) Dividers, 4 inches.

THE PROPERTIES OF SOLIDS.

7. Find (*a*) the tensile strength of a brass wire in pounds and (*b*) the length that would just break under its own weight if suspended at one end.

8. Find (*a*) the limit of elasticity and (*b*) the laws of elasticity of a brass wire under a varying stress, length, and cross section. Plot the result on co-ordinate paper.

9. Find the laws of deflection of beams under (*a*) a varying load, (*b*) length, (*c*) width, and (*d*) thickness.

10. Find the laws of torsion in a steel rod under (*a*) varying torsional force, (*b*) length, and (*c*) size.

11. (Divisibility.) Find the amount of copper in a cubic chain of copper solution after dissolving a piece of known weight in nitric acid, then diluting and precipitating with ammonia.

HYDROSTATICS.

12. Determine by experiment the relation (*a*) between pressure and depth, and (*b*) between the pressure on a given surface at a given depth and the direction of the pressure.

13. Answer by experiment these questions: (1) Upon what does the pressure on any given surface at a given depth depend, *e. g.*, in vessels of different shape? (2) How is pressure brought to bear on any given surface of a liquid enclosed in a vessel, transmitted.

FLOTATION AND SPECIFIC GRAVITY.

14. What relation exists between the loss of weight of a solid immersed in a liquid (water) and the weight of the liquid displaced?

15. What relation between the weight of a floating body and the weight of the liquid displaced?

16. Find the specific gravity of solid denser than water.

17. Find the specific gravity of a solid that floats in water by (1) the method of the sinker and (2) by the method of flotation.

18. Find the specific gravity of a liquid (kerosene), (1) by the specific gravity bottle, (2) by the specific gravity ball, (3) by balancing columns, (4) by a hydrometer.

19. Find the relation between pressure and volume in gases, *i. e.*, prove Mariotte's law.

20. Find the specific gravity of air on the water standard, and (2) the weight of air per liter.

21. Find (*a*) the degree of exhaustion produced by the successive strokes of air pumps, and (2) plot the result on co-ordinate paper.

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Object Lessons in English Schools.

[SPECIAL CORRESPONDENCE.]

After the September rest all elementary schools in England are to devote a certain time to object lessons, and as a guide to what is required the department concerned with education has issued some useful observations and instructions, and as education is a world-wide subject of interest a notice of these remarks may well occupy a little space in THE SCHOOL JOURNAL.

It has been observed that in schools in which object teaching has been introduced with most success, the teachers have carefully distinguished between two kinds of instruction which in our schools are not seldom confused. These two kinds of instruction are (1) observation of the object itself, and (2) giving information about the object. This distinction is of importance, because the scope and method of the lesson differ according to its nature.

Object teaching leads the scholar to acquire knowledge by observation and experiment; and no instruction is properly so-called unless an object is presented to the learner so that the addition to his knowledge may be made through the senses. Junior teachers have not infrequently given lessons before Her Majesty's inspectors which were wrongly described as object lessons because in dealing with the topic selected no suitable appeal was made to the eye of the scholar. A lesson, for example, on the elephant to children in village schools, who have no opportunity of visiting either museums or zoological gardens, may convey information and store the memory with interesting facts, but it does not cultivate the habit of obtaining knowledge directly and at first hand or develop the faculty of observation However well the lesson may be illustrated by diagrams, pictures, models, or lantern slides, if the children have no opportunity of handling or watching the actual object which is being dealt with, the teacher will be giving an information lesson rather than an object lesson. It should be always remembered that in object lessons the imparting of information is secondary to the cultivation of the faculty of observation.

Object teaching should further be distinguished from instruction in natural science. It is elementary science only in so far as it aids the child to observe some of the facts of nature upon which natural science is founded; but as it deals with such topics without formal arrangement it differs widely from the systematic study of a particular science. The principles of scientific classification, the continuous study of one group of natural phenomena, the generalization from facts and the search for natural laws, belong to a later stage of mental discipline, which will be much more effectual if it is being based upon the preliminary training of the senses through sound object teaching. It is most important, therefore, that if, for example, object lessons are given on plant life, no attempt should be made to treat them as a continuous introduction to the study of botany or if the lesson relative to animal life, to the study of zoology.

In object teaching the chief interest in the lesson should center in the object itself.

The following suggestions, which have been made by practical teachers will be found useful:

(1) The teacher should select only so many of the objects set forth as can be dealt with in the year without overburdening the scholars. Habits of observation are better cultivated by the thorough examination of a few objects than by the superficial treatment of many.

(2) No object should be chosen which the teacher cannot thoroughly illustrate either by the object itself or by some adequate representation of the object, or by both. All that is purely technical, whether in the mode of study or the language and terminology should be carefully avoided.

(3) The children should be encouraged to bring with them to the lesson illustrative specimens which they have collected or borrowed from friends.

(4) The children should be encouraged to make simple drawings illustrative of their observations, wherever possible, and in certain cases to make simple records on square-ruled paper. Clay-modeling and other manual occupations may be employed to test the accuracy of the impressions which the children form and to fix them in their minds. Teachers also should frequently illustrate details of the lessons by blackboard drawings. Children who are jaded in five minutes of a lecture will be open-eyed and receptive for half an hour while the teacher draws as well as talks.

(5) Visits to museums and other institutions of educational value are now recognized by the code, and may advantageously be undertaken where possible in connection with the object teaching. Occasional class excursions out of, or in, school hours, under proper guidance, will enable teachers both to provide suitable objects and to confirm previous impressions. It should be borne in mind that objects, when they are brought into the class-room, cannot be there studied under their ordinary conditions; and therefore it is important by a proper use of such expeditions to let the children see what part the object plays in its usual surroundings.

(6) If the scholars are to learn intelligently from their object lessons, the first requisite is trained attention. The right method of securing this is to direct, in a conversational way, the attention of the children to the different parts of the object in an orderly manner, and explain the relation of each part to the whole. After the analysis or study of separate detail, the object should be again treated as a whole. It should not be left in fragments, but the division into parts should be followed when possible by the reconstruction of them into their original unity. Through such teaching the vague and indefinite impressions which children receive from objects when they are first presented to them are gradually converted into clear mental pictures.

(7) The attempt to teach children to be accurate in observation cannot be separated from the need of making them accurate in description. After the children have been trained to observe a fact they should be practiced in making a correct statement of it in a sentence of their own. This oral answering in complete sentences will lead to correct use of the English language both in talking and writing, and will store the mind with a useful vocabulary. The older children will be able to write brief weekly compositions in which they may express in a written form the ideas which they have acquired through oral instruction.

To sum up the main value of object teaching, there are three principal uses. The first and most important is to teach the

children to observe, compare, and contrast; the second is to impart information; and the third is to reinforce the other two by making the results of them the basis for instruction in language, drawing, number, modeling, and other handwork. There are, however, other important uses of good object teaching. It makes the lives of the children more happy and interesting by opening up an easily accessible and attractive field for the exercise of brain, hand, and eye. It gives the children an opportunity of learning the simplest natural facts and directs their attention to external objects, making their education less bookish. It further develops a love of nature and an interest in living things, and corrects the tendency which exists in many children to destructiveness and thoughtless unkindness to animals, and shows the ignorance and cruelty of such conduct. The value of the services which many animals render to man should be dwelt upon, and the importance of kindly treating them and preserving them should be pointed out. By these means and in other ways, good object teaching may lay the foundation for the right direction of the activity and intelligence of the children throughout the whole school.

The lessons suggested in the circular on teaching issued by the education department may be of interest to readers of THE JOURNAL:

Object Lessons.

The following lessons deal with the ordinary phenomena of common life and with objects familiar to the children. The teacher's choice is not confined to these lists; other objects will be accepted, subject to the approval of the inspector. Any of the objects may be dealt with at the discretion of the teacher in more than one lesson, and, although they have been grouped for convenience of reference, it is not intended to prescribe any specified number of them for a yearly course. With different treatment the same object may be adapted to more than one standard. Some teachers may prefer to deal with the same object in successive years, or to recur to it after a year's interval, expanding the study to suit the growing powers of the scholars. To meet the varying requirements of teachers it will be noticed that in some cases the names of the objects have been merely enumerated, while in other cases a few suggestions have been added as to the mode of treatment.

I.—Plant Life.

(*a*) *The study of plants as growing things.*

Grow an onion in a bottle of water and note appearance of root and stem. Make a model in clay of the various stages of growth at short intervals.

Grow mustard seed on damp flannel and note stages of growth.

Notice a few curious roots.

The carrot. Cut off the top of one and grow it in a saucer of water.

Contrast the root of a daisy (fibrous).

Roots which walk. Strawberry or strayberry.

Violet root.

Contrast root of iris and solomon's seal in their modes of extension.

Stem. Count the rings in a trunk that has been felled. Rings, how produced; estimate age of tree; the record of dry or wet seasons.

Climbing stems. Ivy.

Train bindweed up a stick and note that it turns to the right.

If you untwine it and force it the other way (to the left) note how it resumes its old direction again, holding the stick with one of its leaf stalks to get a purchase for the change.

Simple experiments to show effect of light on (1) leaves and (2) roots. Celery; blanching.

Leaves of deciduous trees contrasted with leaves of evergreens. Contrast leaves of holly, ivy, and box with leaves of oak, elm, and beech.

Note autumn tints. Collect and press leaves of various colors in autumn.

Buds. Leaf buds and flower buds.

Parts of a flower.

Fruits. Different kinds.

(*b*) *Blossoms, Fruits, Seeds, and Leaves.*

Parts of a flower.

Flowers of curious shape.

Pea blossom.

Insects and flowers.

Colors of flowers and insects.

Fruits. How seeds are scattered.

Shooting seeds.

Flying Seeds.

Curious flowers, *e. g.*, primrose, compound flower (daisy), water lily.

Leaves. Shape, veining, arrangement.

Flowers as supplying (1) weather glass. (2) clock, (3) calendar.

Examine celery plant. Cut leaf stalks into thin sections to see how a plant is built up.

(*c*) *How plants are adapted to their surroundings.*

A bunch of spring flowers (according to time of year).

A bunch of summer flowers " "

A bunch of autumn flowers " "

Flowers and the soil. Bog plants.

Riverside plants.

Plants that grow in running water.

Plants that grow in still water.

Meadow plants.

Plants of the heath and moor.

Plants of the hills. Plants of the wood. Plants of the sea coast and salt marshes.

Sundew and flesh-eating plants.

Ferns.

The spores of ferns.

Grow some spores in a pan under glass and watch growth and development of a fern. Contrast with growth of mustard from seed.

Mosses.

Lichens.

Funguses.

Simple experiments in manuring plants.

How plants help or hinder each others growth.

Parasites. Mistletoe.

Plants which help or injure man.

II.—Animal Life.

(*a*)

The cat (compare with dog).—Eyes, rough, dry tongue, soft pads and sharp claws, teeth, method of holding prey, drinking, covering of fur, whiskers, tail.

The cow (compare with sheep and goat).—How she takes her food, teeth, chewing, milk (cheese and butter), tail, hoofs, covering, ears, horns, nose.

The horse (compare with donkey).—Covering, teeth, hoofs, tail, mane.

The rabbit (compare with hare).—Teeth, legs, feet, claws, covering, tail, whiskers, ears, eyes.

The mouse (compare with rat and water rat).—Teeth, paws, tail, whiskers, eyes, ears.

A fish.—How fitted to live in water, weight, shape, covering, temperature, movements.

A plaice (compare with herring).—Flat, eyes on one side of head, gills, movements.

Animals which sleep in winter.—Examples: squirrel, dormouse, common snake, frog, toad, snail, slug. Preparation made for sleep.

(*b*)

Mole.—Shape, snout, teeth, paws, claws, eyes, ears, fur, food.

Hedgehog.—Covering of spines, how it rolls itself into a ball and why, head, teeth, food.

Common snake (compare with viper).—Shape, covering, teeth, how it moves, how it swallows its prey.

Frog (compare with toad and newt).—Movement, capture of prey, breathing, winter quarters.

Garden snail (compare with slug.—Shell, mantle, head, horns, eyes, food, preparation for winter sleep.

Earthworm.—Shape, rings, locomotion, food, usefulness.

Spider (contrast with bee).—Shape, segments, legs, eyes, jaws, spinnerets, web, breathing organs.

(*c*)

Paws and claws and their uses.—Cat, dog, rabbit, mouse, mole, frog.

Tails and their uses.—Horse, cow, donkey, dog, cat, monkey, harvest mouse.

Tongues and their uses.—Cat, dog, cow, woodpecker, frog.

Teeth and their uses.—Man, cat, cow, horse, rabbit, snake. fangs of poisonous snakes.

Hair, fur, wool, and their uses.—Cat, mole, dog, sheep, fox.

Beaks of birds and their uses.—Duck, fowl, parrot, sparrow, goat-sucker, heron.

Feet of birds and their uses.—Duck, fowl, swift, owl, etc.

Insects.—Examples: bee, beetle, butterfly, cockroach, silkworm.

Insect development.—Legs, wings, segments, mouth, breathing apparatus, ovipositors.

III.—The Sky, the Air, the Surface of the Land, and Water.

(*a*) *The Sky.*

Sunrise, moon, and sunset. (Note the object over which the sun is seen to rise from month to month. Note sun's position at noon, and its varying height above horizon.)

Shadow. (Note by aid of a spike erect on a flat disk the varying length of the shadow at noon. Study the shadows of objects. Variation in sharpness and depth.)

Moon. (Note the changes. Draw the shape from week to week.)

A few of the brightest constellations. (Make diagrams on square ruled paper from a study of the sky itself. Great Bear and Pole Star; Lyre and Vega; Cassiopeia.)

Planets. (Note any planet visible when the lesson is given. Mark its position on square ruled paper for a few weeks.)

Varying length of day and night.

(*b*) *The Air.*

Wind. Varying direction. (Note and keep record of the direction of the wind from day to day.)

Warmer and colder winds; rainy and dry winds.

Moisture in the air shown by seaweed; string (changing tension).

Wet cloth dries in the wind (water turns to vapor).

Vapor turns to water. (Breathing on slate. Clouds on hills. Evening mists.)

Clouds in the sky. Three chief kinds: "heaps." "beds," "feathers."

Rain. (Note size of drops. Raindrops on dust form little balls. Note effect of heavy rain in tearing up roads. Note the channels so made, and the arrangement of the sand and pebbles washed to a distance.)

Rainbow. (Note the succession of colors. Note position of sun behind observer and of the bow where the shower of rain is falling. Note that height of arch changes. When is it higher and when lower?)

Rainbow colors on shells, film of tar, etc. Feathers of birds.

Dew (Note when formed. Cloudless weather. On what does it lie thickest?)

Hoar frost.

Snow. (Note size of flakes. Movement of flakes in the air as they fall. Snowdrift. Snow squeezed into ice.)

Hail. (Note when it falls. Examine hailstones. Is the hail accompanied by thunder?)

Thunder and lightning.

(*c*) *The Surface of the Land.*

Level or sloping. Simple way of measuring slope. Height of school and neighboring hilltops above sea-level.

Flow of water over the land. Neighboring stream or streams. Water-partings.

The river basin in which the school is situated.

Construct a model fountain and make simple observations on the pressure of water. Mill-dam. A head of water. Notion of falling water as a motor.

Soils. Clay, sand, slate, granite, chalk, quarries near school, gravel pits, clay pits, brick works. (Note how the rocks lie, in layers or in masses without structure.)

Stones in the brook, water-worn; pebbles on beach, rounded; pebbles in gravel pit often with sharp edges, perhaps iceborne.

Difference between sand and mud. Crumbling rocks. Effect of frost on damp rocks.

Caves by the sea formed by the waves; caves inland formed by rain dissolving limestone; stalactites. (A lesson for schools in limestone regions or near rocky coasts.)

Building stone, marble, slate, bath stone, sandstone, etc.

In marble, note shells, etc. Note plants in coal.

Volcanic rocks. Lava, brimstone, pumice stone, basalt, and whinstone. (According to the nature of the district.)

Rock salt · crystals of salt. Salt in sea water. Mineral in solution.

Hard and soft water. Rain water compared with streams from chalk or limestone; leavings after evaporation. Fur in kettles. Softening hard water.

(In certain districts) other minerals in solution, sulphur wells, iron springs, medicinal waters.

Mortar and cement. (Slake lime and make mortar; note the heat, etc.)

Surface soils. Crumbled rocks. Waterborne sand and mud. Vegetable mould and earthworms.

Vegetation and cultivation. Forest, moor, and heath. Heathers.

Hedgerow trees, elms, and ashes.

Trees of the forest, oak, beech, birch.

Evergreen trees, pines, and firs.

Evergreen plants and shrubs, holly, ivy, box. Contrast evergreen and deciduous leaves. (Note changes at fall of leaf. Autumn tints. Press specimens.)

Riverside trees, willows, poplars, aspens.

Hill pastures and meadows. Turf on the downs and hay in the valleys.

Gardens and their contents. Garden fruits and wild fruits. Garden flowers and wild flowers.

(*d*) *Water.*

Standing water: ponds; pond life.

Springs and running water. Clear water looks shallower than it is. Simple experiments in illustration.

Study of flow of a stream. Where the flow is quicker (*a*) in the middle; (*b*) on one side, outer and inner bend. Where the bank is eaten away and where sand is spread out. Varying bottom; deep pools, shallows, sand banks Confluence of tributary. Delta. Measure the speed at which the water flows.

Study of seashore. Rocky and sandy coasts. Soundings. The rise and fall of the tide. Currents. Drifting sand. Effect of frost on cliffs. Breakwaters. Layers of soil and rock exposed down the side of a cliff.

Measure with thermometer the temperature of (*a*) a spring; (*b*) a stream; (*c*) a pond; (*d*) the sea.

Ice. Study hardness, mode of fracture; splitting blocks with a needle. Does it sink or swim in water? Easy to make two surfaces of ice freeze together. Simple experiments with ice.

Watch and record behavior of thermometer plunged in melting ice.

Melt some ice carefully to find out whether it takes up more or less room than the water into which it changes. (Force a mass of ice into a lump of clay and let it melt there.)

Freeze some water in a bottle and note bursting of bottle. Bursting of pipes.

Notes on expansion and contraction of substances illustrated by behavior of water at different temperatures. Preliminary notion of thermometer.

Watch cold spring water being heated to boiling point in transparent glass vessel. Note bubbles of air given off, and as the water is heated bubbles of steam rising from below. Observe force or compressed steam. Preliminary notion of steam engine.

Dribble powdered alum into clear water. Hang thread in the solution and note the formation of crystal. Alum and other crystals.

Expose to the air crystals of (1) salt; (2) soda. Note change. What difference? What difference according to weather? Expose to the air crystals of saltpeter, and note result.

Dribble salt into clear water and note that it dissolves, quicker at first, then slower, at last no more is dissolved. Place a fresh egg in saturated solution and afterwards transfer it to clear water.

One liquid is denser than another. Compare water and mercury. Things which float in mercury and sink in water.

Upward pressure of water on bodies dropped into it. Why bodies sink or float. Why steel ships float. Why cork floats.

Simple experiments in displacement of water.

Simple experiments in pressure of water and pressure of air. Siphon. Squirt. Pump. Diving bell.

Distillation of water. Filtration.

Water; a combination of two gases, oxygen and hydrogen. Simple experiments.

IV.—Object Lessons for Town Schools.

(*a*)

The water we drink—how obtained.
Some of the simpler properties of water.
River (or canal)—according to circumstances.
Boats, barges, or ships, with which children are familiar—according to circumstances.
Other ships, *e. g.*, Atlantic liners.
Bricks—their size, shape, and manufacture; their size, etc., to be ascertained by children's measurements.
Bricklayer's work—arrangement of bricks in 14-inch wall and in 9 inch wall, shown with real bricks or with small wooden ones; mortar, etc.
Coal—its simpler properties.
Coal—how obtained.
Coal—how transported and how used.
Coal-gas; it may be made in presence of the children.
Gasworks and gaspipes.
Petroleum—how obtained; its simpler properties and uses.
Lamps and their dangers.
Common stones used in building and road-making.
Road-making and paving.
Quarries and quarrymen.
Railways—general sketch.
Engines and carriages.
The work of railway men.
The park or public garden—general sketch.
The park or public garden—one or two of its more conspicuous trees.
The park or public garden—one or two of its more conspicuous plants.
Comparison between calico and flannel.
Cotton and its manufacture.
Lancashire and the cotton district; mills.
Sheep-clipping and rearing.
The West Riding of Yorkshire; factories, etc.

(*b*)

Cart-horse.
Donkey.
Sparrow.
Rat or mouse.
Cat.
Plants grown in school-room (acorn in glass of water).
Plants grown in school-room (mustard and cress).
Plants grown in school-room (hyacinth in water or pot).
Plants grown in school-room (a fern).
Costermonger and what he sells.
Some common fruits sold in streets or shops, *e. g.*, pears and apples.
Some common fruits sold in streets or shops, *e. g.*, strawberries.
Some common fruits sold in streets or shops, *e. g.*, oranges.
Some common fruits sold in streets or shops, *e. g.*, cocoanuts.
Things seen in grocer's window, *e. g.*, tea.
Things seen in grocer's window, *e. g.*, sugar.
Things seen in grocer's window, *e. g.*, coffee.
Things seen in grocer's window, *e. g.*, currants and raisins.
The baker and his work.
The milkman.
The addressing and posting of a letter.
The postman and post office.
The sweep and his work.
Dangers from fire and how they may be avoided.
The firemen and fire-engines.
'Bus or tram drivers.
The policeman.

V.—Other Lessons for Country Schools.

(*a*)

The farmyard. Its buildings and their contents. Animals kept on a farm and their uses. Necessity of cleanliness, kindness, and suitable food. The dairy and its contents. Butter and cheese-making.

Bees. Bee-keeping.

Spring. Spring flowers. Work in the fields in spring. The cuckoo and swallow. Record date of arrival.

Summer. Different kinds of leaves and fruit. Work in the fields in summer.

Autumn. Work in the fields.

A mill and the work of a miller.

Winter. Frost. Ice. Snow.

Birds. Singing birds, as the thrush and nightingale. Birds of prey, as the hawk. Swimming and wading birds, as the duck and heron.

Wild animals. The fox, hare, and rabbit.

Minerals. A mine. Three useful minerals.

The lessons on the seasons should correspond with the actual seasons of the year, and the different operations explained should be taken while each is in progress.

Leaves of trees may be dried by simply placing them between sheets of paper and pressing them. Their shapes may be used for the children to draw round on paper, which can afterwards be pricked and then sewn round.

(*b*)

Springtime
- The waking of nature.
- The lengthening daylight in the morning and evening, the coming warm weather, birds singing, building their nests, laying their eggs, the trees and hedges changing, buds and leaves, the bloom on fruit trees.

The local wild flowers of spring. The daisy, primrose, bluebell.
Summertime.
The local wild flowers of summer.
Autumn.
The local wild flowers of autumn.
Winter. The repose of nature.
The land. Woodland, meadowland, ploughland, moorland.
The sky.
A bird—covering, wings, beak, feet; motion; nests, eggs, food.
Local birds { Thrush or blackbird. Lark. Robin. Rooks.
Birds which come for the summer.
Birds which come for the winter.
Local wild animals { Rabbit. Hare. Fox. Hedgehog.
Animals on a farm.
Our village.
The carrier's cart.
The cottage garden.
The stream or river, its banks, the birds and animals that live near it.
A fish.
A plant.

(*c*)

The garden in spring.
The farm in spring.
The garden in summer.
The farm in summer.
The garden in autumn.
The farm in autumn.
The garden in winter.
The farm in winter.
The weather and wind.
The soil; sunshine, air, rain, frost, manure.
The farmer's tools. The plough, drill, reaping machine.
The crops: grass, corn, root-crops.
Wheat.
The potato.
The oak tree.
The elm tree.
The apple tree.
Evergreen trees.
An insect.
The spider and his web.
The butterfly; colors, beauty, history.
Bees.
The farmer's pests.
The farmer's friends.
A pond.
A frog.
A ramble in a wood and what may be seen there.
The railway.
Market-day in the neighboring town.
A newspaper.

VI.—Object Lessons in the Science of Common Things.

(*a*)

Water.—How carried, jugs, bottles, barrels, spouts, funnels. Wells. Things that float, things that sink.
Solids.—Hard and soft, in the room and in clothing. Files. Hammer and nails. Buttons.
Powders.—Flour.
Pastes.—Paste, clay, putty.
Things porous.—Bread, sponge.
Things that melt.—Butter, tallow, sealing-wax. Ice, snow.
Water.—Drying clothes, breathing on slates, frost on the pane. The boiling of the kettle. The pot boiling over.
Things that dissolve.—Sugar, salt.
Air.—Bubbles, pouring water through funnel into empty bottle. A burning candle. Fans, blowing feathers. Paper windmills.
Forms of strength.—The floor, joists and boards. Wooden bridges. Steps and stairs.
Things that stretch.—Elastic bands.
Things that bend.—Bow and arrows. Cord, ropes.
Machines.—Tops. Roller for pastry, for garden. Perambulator.
Movements.—Walking, running, leaping, creeping, crawling.
Musical Toys.—Harmonicon. Bell.

(*b*)

Water.—Pipes, taps, the fountain. Canals. Rafts, boats, anchors.
Solids.—Teeth, nails and claws. Sand-paper. Pins, needles, awl, gimlet. Hook and eye.
Powders.—Chalk, pencil.
Pastes.—Mud in streets, brickmaking.
Things porous.—Brick, chalk, springs of water.
Things that melt.—Candle-making. Icicles.
Water.—Manufacture of salt from brine. Rain-drops, hail, spray, water-dust, the cloud.
Things that dissolve.—The manufacture of sugar.
Air.—The chimney, draughts. Waves and breakers. Winged seeds. Shuttlecock, arrow and kite.
Forms of strength.—The ceiling. The arch. Ladders.
Things that stretch.—A football.
Things that bend.—Cart springs. Paper clips. Spider's web.
Machines.—Hoop, fly-wheel of sewing machine. Mangle. Wagon. Bicycle.
Movements.—Swimming.
Musical Toys.—Musical box. Drum.

(*c*)

Water.—Syphon, pump. Oil, cream.
Solids.—Hinges, tires, and axles. The grindstone. Screws and screw-drivers.
Powders.—Black lead.
Pastes.—Pottery.
Things porous.—Blotting paper, towels, wicks, earth.
Things that melt.—Lead, iron.
Water.—Salt Lakes. Distillation of Water. Clouds and rain.
Things that dissolve—Crystals, hard water, varnishes.
Air.—The pop-gun, the fire-engine. Winds. A sailing ship.
Forms of strength.—The roof. Railway bridges. Cranes.
Things that bend.—Clock spring. Chains.
Machines.—The loom. Threshing machine. Rolling iron rails. Coining.
Movements.—Flying.
Musical toys.—Tin whistle. Sounds from stretched cords.

VII. Measuring, Weighing, and Testing.

A two-foot rule.
Measurements of length—first by eye, then with rule. } Measurement in inches only.
Easy measurements of a square—first by eye, then with rule. }
Easy measurements of rectangles.
The wire gauge.
Callipers.
Scales and weights.
Weighing of common objects—first by hand, then with scales; weight in ounces only.
Weighing letters.
Plumb-line.
Spirit level,
Steam—Observations on boiling water; condension of steam, etc.
Mercury—weight of; *cf.* drop of mercury and drop of water: effect of heat on mercury.
Alcohol—effect of heat on it; its evaporation.
Thermometer, its manufacture.
Thermometer—uses; readings in ice, in boiling water, under the tongue, in school-room.
A candle—its composition. The wick.
Candle under bell-jar over water; candle in narrow-necked bottle.
Chalk—where found; its origin.
Chalk—its treatment with acid.
Chalk—its reduction to quicklime with blow-pipe; lime-water.
Sugar heated in test-tube; wood heated in test-tube.
Sulphur heated in test-tube: lead heated in test-tube.
Magnet and iron filings.
The compass.

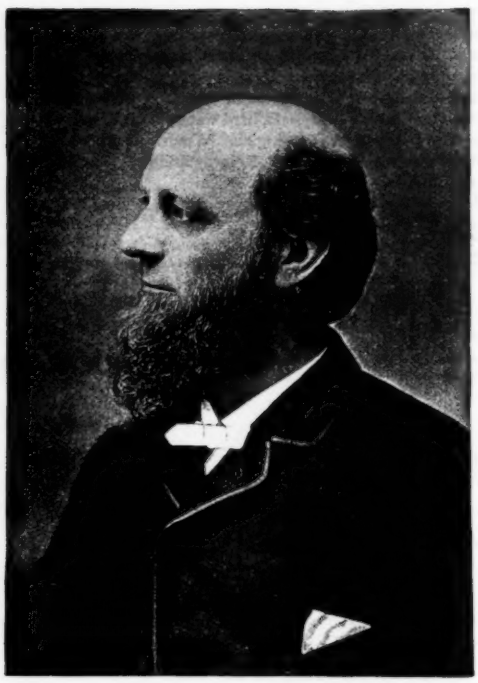
—From *The Practical Teacher*.

Chautauqua System.

Many educators are skeptical as to the usefulness of an educational system like the Chautauqua, which under Bishop Vincent's leadership has come to be a powerful institution exerting a wide-reaching influence, not only in this country, but throughout the world. Prof. Albert S. Cook, of Yale university, has contributed a notable article to the August *Forum* in which the aims of the system are explained, and the reasons for its remarkable success shown.

IS THE SYSTEM SUPERFICIAL?

Taking up the charge of superficiality which is frequently brought against all the educational work of Chautauqua, Prof. Cook says that it has been a difficult one to meet. It lies, he points out, against the summer school—the time is so short. It lies against the correspondence college—there is lack of the living voice. It lies against the C. L. S. C.—how can untrained minds loosely held in an elastic organization, accomplish anything of value? As to the summer school, it might be met by pointing to the character of its teachers. Is it likely that scholars of the reputation of Professor Seymour, of Yale, and President Harper, of Chicago, would, year after year, deliberately abet pretentious sciolism? Would it be possible to get together in one year, as a faculty of history, four men like Professors Von Holst, Moses, Herbert B. Adams, and George B. Adams, in a sham college which had been before the public for fifteen years, and which only satisfied the hunger of its students with the east wind? I myself had students in Old English last summer who would work five or six hours a day at the subject. How should it be otherwise when the class was largely composed of college professors and teachers in academies and high schools, teachers who had a purpose in their application? At the end of the session I held an examination in the text-book—my "First Book in Old English"—in which several passed with credit. An average class of college juniors or seniors would not have done better as the result of half a year's study. We are hearing a good deal in these days about the deficiencies in our public schools. The medical colleges—those which are afflicted with a deplorable lack of standards—have come in for their share of scathing criticism. I be-



BISHOP JOHN H. VINCENT.

lieve it is true that not even the theological seminaries have wholly escaped censure on this score. Who, then, is to cast the first stone if these things be true? And if they are not true in other instances why should it be assumed that they are solely true when applied to Chautauqua?

AIMS AND INFLUENCE OF THE SYSTEM.

Coming to the consideration of the aims and influence of the Chautauqua system Prof. Cook writes:

"But what is the Chautauqua idea? As nearly as I can formulate it, it is something like this: A fraternal, enthusiastic, methodical, and sustained attempt to elevate, enrich, and inspire the individual life in its entirety by an appeal to the curiosity, hopefulness, and ambition of those who would otherwise be debarred from the greatest opportunities of culture and spiritual advancement. To this end all uplifting and stimulating forces, whether secular or religious, are made to conspire in their impact upon the person whose weal is sought. He is made to feel that his self-improvement will be reflected in the greater refinement and cheer of his home, and thus the striving after a larger and sweeter life is entwined with his domestic affections. He is exhorted to meet with others in local circles; to give them the benefits of his counsels and superior knowledge if he is farther advanced than they; and to obtain impulse and direction from them if he is as yet but a novice. In this way his social instincts are appealed to and cultivated, and the result is the infusion of a greater charm into neighborhood life. These circles are frequently connected with one or several churches, and thus religion is introduced to hallow and reinforce an inspiration to which it may at first have seemed alien. He is led to expect and demand assistance in his intellectual endeavors from experts at a distance, and thus has his sense of human fellowship quickened, his reverence for learning and benevolence increased, and his feeling for national unity deepened. Every year he has the opportunity, at Chautauqua, of meeting the leaders to whom he owes so much; to appreciate more keenly the reality of their personal interest in him; to resolve his doubts and difficulties by the asking of questions; to listen to lectures by men eminent in every walk of life; to enter classes in subjects which he is qualified to pursue; and to have his heart warmed by personal contact with a host of those who are aiming at a higher life in the face of similar discouragements, but with equal aids, with a common purpose, and therefore with fraternal sympathy.

"Can we wonder that Chautauqua is a sacred and a blessed name to multitudes of Americans?"

Teachers and parents, as a rule, are not good observers of children, they are not disinterested enough; they think of them as they *should be, not as they are.* The pedagogic eye is too apt to search for a man in the child, forgetting the child in the operation.—*Russell.*

Employing New Words.

It is an excellent exercise to give pupils new words and thus enrich their vocabulary; not only do thoughts demand words, but words arouse thought. These words may be such as are unusual and likely to be mispronounced. Here is a list of fifty words with suggestions for employing them; robust, disputative, carmine, solitaire, oleomargarine, perfumed, nicotine, senile, cerements, enervate, obesity, prussic, pomegranate, aldine, iodine, varioloid, bronchitis, jocund, caldron, tepid, granary, commissariat, orthoepic, vagaries, fetich, vacuity, precedent (an example), immobile, chagrin, plait, verbatim, aquiline, peroration, commandant, soughing, grimaces, truculent, morphine, combative, divan, raillery, surtout, adieu, tirade, pursuivant, colonel.

1. Let them be written on the blackboard and copied into a note-book; every pupil who can write should have a book and be accustomed to transfer to it from the blackboard or from dictation.
2. Let the teacher give examples of the use of the words, a few each day, as, "—— is a robust person."
3. Let him pronounce the words correctly, the pupils pronouncing the words after him.
4. Let him call for sentences in which the words are used properly.
5. Suggest that the pupils use them at home and report—this often occasions merriment.
6. Let them report examples in books of the use of the words.

A Flag on Every School-House.

Raise the flag on ev'ry school-house; let it float upon the breeze;
Sing aloud the "Spangled Banner" as it rises o'er the trees.
Tell the children all its story on the land and on the sea—
That its pet names are "Old Glory" and "The Banner of the Free;"
That its red should e'er remind us of the blood of martyrs shed
That we might live in freedom's land after they were with the dead.

That its white our faith should strengthen that the people's cause is just,
And no monarch e'er shall rule us but the God in whom we trust;
That its blue for truth eternal like the azure sky above,
E'er should keep us true and loyal, and our nation's honor love;
Its stars shall lighten all the world, and must prove to all who see
That the people can be trusted with the boon of liberty;
Its stripes mean justice, sure to fall on all assailing foes,
It waves proudly and defiantly against all who it oppose.

Raise the flag on every school-house, let it float upon the breeze,
Tell the children of its triumphs on the land and on the seas;
Many thousand noble freemen gave their lives to prove its worth;
The only flag the despots fear—freedom's hope through all the earth.
It knows no sect, no race, no clan; schemes and plots it doth defy;
To freedom's storm-tossed, struggling ship 'tis a rainbow in the sky.

Raise it high, 'mid spire and steeple, let it glisten in the sun;
It has no spot of shame to hide in all its victories won.
Tell the children that its symbol is a state for every star;
Tell them its victorious record in days of peace and cruel war;
Tell them it is theirs to cherish, that its stars must never set,
And in future they'll defend it, if need be with the bayonet.
Keep the flag on ev'ry school-house, with your ballot it defend;
Learning and freedom firmly join, then our union ne'er shall end.

Raise the school flag 'mid Maine's pine trees, raise it 'mid magnolia bloom;
'Mid prairies broad and "Rockies" wild—the school-house means the outlaw's doom.
Keep the flag and school united, far North and West, 'mid wealth unfold;
Up and down the grand Pacific, raise it high in "land of gold;"
Farther yet in isles of ocean, send the news o'er hill and crag.

Teach them worth alone is royal, all are free beneath our flag;
Take them, our flag and school together, tell them these have freed the slave;
Tell them fame and honor open to the faithful and the brave;
Cheer them, our beautiful banner, our countries and victories won,
Our schools, our heroes, our eagle, cheer for our "many in one."

—*T. J. Crowe*, in *Werner's Magazine.*

Editorial Notes.

The teacher thinks the public underrates him and his work, and so it does; but the reason is that he gives it good cause. What does he do to elevate his work in the eyes of the public? Let it be noted at the outset that the knowledge he is certified to have does not give him a high rank; it is what he *does* and the *way* he does it. A teacher can so labor as to cause teaching to appear as the noblest of callings. He must in some way or other lift his work out of routine. He must show it is based on principles beyond the ordinary reach; that the teacher's equipment of arithmetic, etc., is but a small element, a very small element; that there is a quantity of knowledge of the history, principles, and methods of education needed. Those who do not make this manifest are the ones who belittle teaching.

The teacher's conception of his office exercises a mighty control. It is probable that over 75 per cent. of those who enter on their work for the first time this fall will make the knowledge they will force into the pupil the supreme object. Experience and thinking will show them their mistake. The want of the world and the want of the school-rooms are the same. It is a leader that is wanted. The world was moving along 1895 years ago as it had been doing; the nations ate and drank; they married and gave in marriage. Jesus came; he was a leader into new and higher stages of thought; this is the secret of his mighty power. Let this example ever stand before us. The one who can lead always has students; to be with one who can lead us is an unfailing delight.

There is a new and deep feeling arising which centers around the public school. The first movement was that of placing over it the American flag—that is, making it a public institution The next step will be to make the teacher a public officer; THE JOURNAL has proposed that some badge be furnished by the state and that this be worn during certain hours of the day. It now proposes in addition that penalties be prescribed for interfering with or resisting such an official. The government should stand by the teacher; it will not do to say to parents they must send their unruly children to school and leave the teacher to their tender mercies. They must come and obey when there.

The graduate of the college has his claim to precedence still to establish, just as if he had never gone to college at all. He has chosen to take the time needed to get him a new armor, and the battle is still in front of him. The longest way around is often the shortest way home, and it is the theory of a college education that the added strength it gives a man more than compensates for the time he loses in acquiring it. But there is the risk that it may not compensate, and that is a risk which the individual incurs. Society will concede nothing to the college graduate until he has proved his claim.

It is altogether likely that a false sense of the value of a college education in the minds of those who have it, is to blame for the disappointments, often poignant, sometimes crushing, which the young graduates encounter when they return to the battle of life. That there is a prejudice against college graduates, everybody who has graduated from a college and tried to get a job on the strength of his diploma knows to his sorrow. If it can be said with truth, as it often is said, that the college hurts a man more than it helps him, the attitude of the collegian is to blame for it. He will encounter a chilling frost when he mingles with society, just as long as he entertains the notion that society owes him precedence. Society will acknowledge no such debt, for the simple reason that it does not exist. —Detroit *Tribune*.

The wide-awake teacher in the high school will have occasion to ask the boys some questions pertaining to the products of our country. Where does our wealth come from? Well, the corn crop is estimated at two and a half billions of bushels, which at twenty-five cents per bushel will bring the farmers $600,000,000. The cotton is estimated at nine million bales which at twenty-five dollars per bale will give the farmers $225,000,000. Now if the farmer could only sell to the Europeans one half of this as well as half of his wheat crop there would be considerable money in his hands. But the other parts of the world raise wheat, corn, and cotton. All these things are subjects for "talks" in the school-room.

"What a pleasant voice she has," said a parent of a teacher to whom he had just taken his little boy. Teachers have given more attention of late years to the tones of their voices. The case is remembered of standing outside the door of a school-house and hearing the sharp, cross tones of a teacher's voice, and determining not to make a visit that day.

Leading Events of the Week.

Col. H. L. Abbot retires from the U. S. corps of engineers. ——Minister Thompson arranging a basis for a commercial treaty with Brazil.——Speaker Gully, of the British house of commons, re-elected unanimously.——This country likely to join with England in demanding the punishment of the murderers of missionaries in China.——Prince Ferdinand returns to Sofia, is warmly received by the authorities, and delivers an address.——Japanese win a victory over rebels in the southern part of Formosa.——Many factories running night and day with increased wages.——The trouble with the Bannock Indians over and the troops withdrawn.——Investigations at the West Broadway (New York) building where fifteen men lost their lives by falling walls reveals broken pillar plates and an ancient well near the sunken post. ——The *Marblehead* ordered to Tarsus, Asia Minor, to protect Americans.——Turkey complains to Bulgaria that Bashi Bazouks have pillaged several villages in Macedonia.——The dispute between France and Brazil over Guiana so serious that war is threatened.—— The queen in her speech refers to the murder of English missionaries in China, the Armenian massacre, and the annexation of Bechuanaland to Cape Colony.——The bond syndicate reported to have an ample supply of gold on hand to pay into the U. S. treasury to take the place of that exported.——Matt. W. Ransom's incumbency of the office of minister to Mexico declared illegal.——Sir Garnet Wolseley succeeds the duke of Cambridge as commander of the British army.——The details for the two new battle ships authorized at the last session of Congress decided upon.——Three hundred Russians killed by an explosion at the artillery barracks at Toola; the explosion said to be the work of Nihilists.

Physical Culture Extension.

Twelve of the leading teachers of physical culture in America, representatives of the best known colleges, have united in preparing a systematic course of physical culture exercises which is to combine the best of the various systems. The course of exercises are published by the Physical Culture Extension society of Chicago and branch schools or clubs are being organized in all the leading cities. The plan is to organize clubs in the various cities and have them take the course of forty-eight lessons under the leadership of a teacher thoroughly prepared for the work by one or more of the instructors who outlined the course. One teacher will have charge of all the clubs in one city. The directors of the Physical Culture Extension society are: Mrs. Frank Stuart Parker, of Chicago, Edmund Russell, of New York, Mrs. Laura J Tisdale, of Chicago, J. H. Kellogg, M. D., of Battle Creek, Mich., Myra Pollard, of Chicago, Genevieve Stebbins, of New York, Mamie K. Matthews, of Chicago.

The instructors who have prepared the course are: Mrs. Frank Stuart Parker, wife of Col. F. W. Parker, former teacher in Boston university school of oratory and the Cook county normal school; Genevieve Stebbins, principal of the New York school of expression; Charles J. Kroh, principal of physical training in Cook county normal school, and for twelve years leader of the Turn Verein, of Cincinnati; Martha Flemming, teacher of elocution in Lake Forest university, and of physical training and dramatic expression in the Chicago kindergarten college; Mrs. Anna Baright Curry, former teacher in the Boston university school of oratory, former principal of the school of elocution and expression; Mrs. Jenness Miller; Cora M. Wheeler, graduate of Boston school of oratory, principal of Utica conservatory; Henry Lawrence Southwick, president of Boston school of oratory; Eleanor H. Denig, principal of Delsarte in Soper school of oratory, Gottschalk Lyric school and Sacred Heart academy; Edna Chaffee Noble, principal of Detroit training school of literature and elocution; William James, professor of psychology in Harvard university; W. B. Chamberlain, principal of elocution and oratory in the Union Theological seminary.

The course of exercises covers the following outline: "Expression of Thought Through the Body" (Frank Stuart Parker); "All-Sided Expression Necessary to Health of Bodily Organs" (Charles J. Kroh); "Reflex Action of Habitual Bearings and Attitudes Upon Thought and Expression" (Genevieve Stebbins); "Grace" (Anna Baright Curry); "Development of the Body" (Martha Flemming); "Beauty" (Jenness Miller); "Beauty of Utterance" (Cora M. Wheeler); "Voice and Its Development" (Henry Lawrence Southwick); "Training of the Body in Habitual Uses" (Eleanor H. Denig); "Descriptive Gesture" (Edna Chaffee Noble); "Expressions and Significance of Emotion" (William James); "Rhythm in Movement and Voice" (W. B. Chamberlain).

Each member of the Physical Culture Extension society receives during the year twelve pamphlets, one on each of these subjects, and in each full directions for the proper exercises so that each student can supplement his or her lessons with systematic home practice. The society expects to organize four or five branches in Milwaukee, the course of instruction, which will cover nine months, to begin in September.

N. M. T. T. A.

The National Manual Training Teachers' Association met at Armour institute, in July. Dr. D. C. Milner, of Armour institute, welcomed the visitors. John W. Saville, president of the association, who is also president of the Baltimore Polytechnic institute, responded, and said the institution was an undying honor to a great philanthropist.

Miss Ida M. Condit in her "Historical Sketch of the Manual Training Movement" said among other good things: "The progress of the manual training movement in the United States is an outcome of dissatisfaction with the old methods of education, and the effort to make public education more practical." George R. Carothers, director of manual training in the public schools of Tacoma, Wash., spoke on "The Influence of Manual Training on Character." After outlining the old-time conditions when learning a trade was fashionable as well as necessary, he said:

> We are fast approaching the age of specialists. With the mass of pupils in the common schools little is done to help them discover what they are best adapted to do, or what they can do for themselves. For want of training, the planning and creative faculties, originality, individuality are repressed. Twelve years of practical disuse of the hand, that most wonderful mechanism which distinguishes man from all the lower orders of creation, at a time when both hand and mind are most susceptible to instruction and practice, can have no other result than the lessening of the usefulness of the individual.
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> In manual training the pupil cannot copy; everything must be done by himself. Such training develops the powers of observation and reflection, of stimulating original investigation in other lines of work and producing true students. Labor with education is more likely to tend to liberality than narrowness.

Colonel F. W. Parker gave a talk on "The Relations of the Modes of Expression." "Manual Training—The Teacher," was discussed in a paper prepared by Prin. William A. McAndrew, of Pratt institute high school, Brooklyn, which was read by Prof. P. S. Dingey, of Armour institute.

In Europe the belief is widespread that those who have the schools, have the future in their hands. That is why the people are so jealously watching changes in educational laws and are ready to oppose any movement that seems to have the tendency of defrauding posterity and depriving it of the full enjoyment of their rights. In Brussels is great excitement over the Government's Education bill. It is reported that the king was assailed at a place of public entertainment with cries of "Down with the School Law," against which shouts of "*Vive le Roi!*" were raised. The police arrested ten persons who were creating the uproar, and when the crowd made an attempt to rescue the prisoners, drew their swords and charged upon the people.

A very characteristic "students' revolution," writes the *Independent*, recently took place at the University of Moscow. The Director of the Historical Society, Prof. W. O. Kljutshewski, in a memorial address on the late emperor, had made use of these words:

> "Emperor Alexander III. has saved European civilization from destruction and has made Russia a state of high culture. Science must claim for Alexander III. that he, in the name of truth, won public opinion for himself, that he has advanced the cause of good and has elevated historical science in Russia."

This aroused the ire of the students, who, as is well known, had been kept down with an iron hand by the late czar and who well remembered that the latter had forbidden the versatile historian, Bilbasson, the author of a masterly history of Catharine II., from continuing his researches or publishing them. Kljutshewski, nevertheless, published his address, and the students bought up a large number of copies and sent them out, accompanied with the well-known fable of the Russian satirist, Vouvism, in which eulogies are delivered by various animals at the death of their dreaded foe, the lion. Copies were sent to every professor and high dignitary in Russia. When the author of the offensive article appeared in his lecture room he was hissed and hooted, and amid cries of "Pereat" prevented from lecturing. Nine students received a small fine for this, and even against this the whole body of students protested. The Cossacks were sent and arrested a large number of students, and forty-four were banished forever from all Russian higher institutions of learning. The students of both Moscow and St. Petersburg universities, as also forty-two professors, petitioned the government to pardon the culprits, but this has been steadily refused.

The Buffalo University School of Pedagogy is to be congratulated upon securing Prof. M. V. O'Shea as professor of educational psychology and child study. He is a strong man and one of the coming leaders in the educational field. His literary, pedagogical, and psychological work is of a high character. While the normal school field in which he has been working until now gave him excellent facilities for investigation, along the lines in which he has been particularly active the present position will afford still larger opportunities to help advance the educational cause.

The grave question whether Toronto teachers may wear bloomers has at last been decided. A heated discussion at last month's school board meeting arose over the resolution condemning teachers for appearing in bloomers in public and asking that the inspector report all teachers who adopted that style of dress. It was finally defeated by a vote of 13 to 6.

State Supt. Thompson writes: "Notwithstanding the fact that the school population of Kentucky has run up to nearly 728,000, the auditor's estimate of funds available for common school purposes enables me to declare for the school year ending June 30, 1896, a general per capita of $2.80. To this is to be added interest on county bonds." This is quite an appreciable increase of the school fund.

The Chicago *Evening Journal* states the facts concerning the New York State "Narcotic Institute Law" justly. Of this obnoxious law it says:

> "It requires that not less than four lessons per week for ten or more weeks in each year shall be devoted to the teaching of the nature of alcoholic drinks and narcotics and their effect upon the human system, in all grades below the second year of the high school. The fundamental idea is good, but the reformers have certainly been intemperate in the scope of their measure. It is preposterous to compel the giving of forty lessons a year for eight or nine years on a subject that can be thoroughly covered by any intelligent teacher in three months.
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> "Another defect which will tend ultimately to secure the repeal of the law and to defeat the laudable object of its friends is that it does away with oral teaching on the subject and, apparently in the interest of some text-book publishers, demands the annual expenditure of $1,000,000 by the people for books. For these two reasons the measure was protested against by Superintendent Skinner of the New York department of public instruction and by educators and clergymen all over the country. It is no doubt true that $1,000,000 for text-books is more profitably invested than $1,000,000 for drinks, but this is a flimsy excuse for an unnecessary increase in the already grievous burden of cost of text-books."

The first summer school of theology in this country held a ten days' session at Cleveland, Ohio. President Charles F. Thwing, of Western Reserve university, had arranged the plan and superintended it. Thirteen states and Canada were represented. There were given in all thirty-nine lectures by fourteen different lecturers. Throughout the discussion the value of philosophy as an aid to theology was very strongly emphasized.

Iowa college enters upon its forty-eighth year. The "group system" has been adopted enabling the student to take his choice out of nine groups of major studies, with a large election among minors.

Dr. Francis Walker, son of Prof. Francis A. Walker, of the Massachusetts institute of technology, will conduct the department of political and social science in Colorado college.

The Tennessee State Teachers' Association, which held its annual session in Franklin, elected the following officers: President, Supt. G. R. McGee, Trenton; first vice-president, W. T. Watson, Memphis; second vice-president, C. L. Hayes, Lebanon; third vice president, John W. Paulett, Knoxville; secretary and treasurer, Frank Goodman, Nashville; executive committee, Hon. S. C. Gilbraith, Nashville; Supt. F. K. Henderson, Humboldt; Supt. Jesse Tomlinson, Culleoka; Supt. J. H. Sikes, Goodlettsville; Supt. T. A. Barrett, Chattanooga. President McGee appointed the following committee on school laws: C. S. Douglass, Gallatin; W. R. Garrett, Nashville; S. A. Mynders, Jackson; James G. Meadors, McMinnville; J. H. Allen, Shelbyville. The following committee was appointed on needed institute legislation: W. R. Garrett, Nashville; Frank M. Smith, Knoxville; Thos. H. Paine, Jackson; A. H. Wright, Nashville; James G. Stinson, Lewisburg.

More than 250 young women were present at the conference under the auspices of the international committee of Young Women's Christian Associations held at lake Geneva, Wis., July 2-12. They represented eighteen city associations, thirty-two universities, forty-seven colleges, twelve normal schools, three academies, two seminaries, and one high school. They came from fifteen states and fourteen denominations.

Is it not time the teachers in other states interested themselves, as many have in Massachusetts. A teacher reported a certain orphan "Cliffords" as being taken by a farmer and yet not permitted to go to school. He was with the farmer two winters and went to school 79½ days, and was tardy 66 times. Another was reported as attending school only 19 days in the entire winter. Another boy was taken by a woman who had been in jail; the committee remonstrated at the instance of the teacher because the boy came so infrequently to school. The law says all children between the ages of eight and fourteen should attend school thirty weeks each year. Teachers, everywhere, take the part of these children.

The boys will be glad to learn there is a "cellular" kite. Two box frames are made four feet long and wide, and two feet thick, and covered with thin muslin, except the end. Lay them down on their sides, the open ends toward each other, two feet apart; run a stick from box to box and fasten to the middle of bottom sides (the sides that lie on the ground); fasten the string to the edge of one of the boxes. There are thus four kite planes. A thermometer is sent up with the kite to register the temperature.

Father Canevan, a Catholic priest of Pittsburg, has prepared a catechism for schools which Protestants declare unobjectionable to them. Possibly there may be some teaching of dogmatic religion yet in the schools.

It will be well for the teacher to keep posted on the Christian Endeavor and Epworth League movements, for the members of them are mainly school children. There is to be a result from these associations for religious purposes.

It appears that Juan Fernandez island is to be thrown open to settlers; the hut on it credited to Robinson Crusoe is to be destroyed and a prison for Chilian convicts erected. This will be sad news for the boys. But they must remember it is not yet settled where Alexander Selkirk (the hero Daniel Defoe called Crusoe) really landed and lived, though all believe the Fernandez island to be the spot.

A great collection of Roman instruments has been made; among them a baby's nursing bottle, a safety pin, forceps and knives; most of these were found in Pompeii. The ancient Romans were evidently more skilful than has been supposed.

"The twenty-fifth 'annual' of the THE SCHOOL JOURNAL, issued by E. L. Kellogg & Co., of this city and Chicago, is just out. It contains a number of interesting articles handsomely illustrated, by leading educators, a symposium on the National Educational Association, and other noteworthy features."—New York *Tribune*, Sunday, July 28.

Brookline, Mass.

The Brookline school board has added instruction in advanced manual training work to the high school curriculum, and Mr. Edward P. Hutchinson has been placed in charge. Another course in advanced domestic science has also been added, under the direction of Miss M. M. Everett, of Pratt institute. Elementary science will also be introduced into the grammar grades next fall.

The Brookline high school has probably more elective studies, and consequently more elastic system of courses than any other high school in the state. Each of the three courses has an average age of from three to five elective studies, embracing everything from French, Greek, Latin, and music, to instruction in the designing of ornaments, hats, and such things.

The instruction in domestic science, as outlined for next year is probably one of the best courses in this line that has ever been devised. It is so arranged as to cover the entire course of four years, and may be taken up, by means of the elective system, by both the college and general course pupils.

The branches consist of sewing, cutting, dress-making, wood-carving, embroidery designing, chemistry, of food, home sanitation, nursing and hygiene, hat trimming, etc. The manual training work includes instruction in forging, mechanical drawing, advanced machine work, chipping and filing, wood-turning, pattern making, and foundry work. L.

Iowa.

Grinnell college, Grinnell, Iowa, has been attracting some notoriety lately on account of the queer utterances of its professor of applied Christianity, Geo. J. Herron; in this he seems to be sustained by President Gates. His claims are that the charging of interest on money is wholly wrong as well as the charging of rent for a house. This is queer since his salary is direct from six per cent. interest on $35,000 contracted to be given to the college. How this exemplifies Christianity puzzles the Grinnell people. It is prophesied that a vacancy will occur in the faculty ere long, possibly two. Iowa people are not fools, by any means.

Florida.

The first month of summer school at De Funiak had 46 white teachers; Apalachicola, 30 whites, and 9 negroes; Tallahassee, 48 negroes; Live Oak, 73 of both; Palatka, 107 of both; Daytona, 56 whites; 62 whites at Kissimmee. There is a great falling off from last year due to the freeze; delay caused by waiting for the legislature to make appropriation which they failed to do; the unwise action of the legislature in removing all limitation on third-grade certificates. This was done to please the lowest elements, but a change will be made. The sentiment of Florida is for progress.

Chicago.

The *Journal* declares that the Boston teachers say "That boy done it," "Tell your teacher what you done" and begs the Chicago teachers not to commit such sins.

The *Herald* says: "Volumes that teachers pronounce worse than worthless are kept on the list. A geography that credits Chicago with a population of only 500,000 and describes Bloomington as the great railroad center is still pushed into the hands of the pupils."

Denver Meeting of the N. E. A.

FROM THE EDITOR'S NOTE BOOK.

[CONTINUED.]

The plan of appointing a salaried railway secretary came up for discussion. But the directors wisely concluded to delay action upon it for a year.

Supt. W. S. Sutton, of Houston, Texas, takes a deep interest in the dissemination of sound pedagogical ideas. His splendid work for the professional advancement of his teachers has been frequently spoken of in THE JOURNAL. There are few who can equal him in the simplification of the language of scientific pedagogy. It is a pleasure to hear him expound the great truths with illustrations of their meaning by homely examples from real every-day school-room practice.

Mr. L. E Wolfe was formerly state superintendent of Missouri and Mr. John Kirke in the high school of Kansas City. Last fall the election changed matters and now Mr. Kirke is state superintendent and Mr. Wolfe in the Kansas City high school. Both are strong men. But it seems a pity that a man of the executive ability and professional caliber of Mr. Wolfe was not put at the head of some large school or school system where his resources would be utilized to greater advantage. His last report was a most interesting pedagogic document, and was highly commended in educational circles. THE JOURNAL gave extracts from it last winter. Mr. Wolfe should be invited to assist in institute work.

One important point that was settled by the discussions of the principle of concentration is that the purpose of concentration is to strengthen character. Quality or tone of character depends principally on the subject-matter of instruction. In other words: concentration affects the quantity, not the quality of character.

The practice of putting the same name on the program more than once, or allowing one person or a small clique to monopolize all the talking at department meetings, should be discouraged If there is so much demand for certain speakers that nearly every department wants to use their names as drawing cards, these people should be brought forward in the general meetings. The departments were organized for specific work and should try to find specialists to address them who will confine themselves strictly to ideas bearing on these particular lines. And then, one who is thoroughly prepared for the discussion of any particular topic can give all the audience wants to hear, in one dose. It is rather tiresome to see the same persons repeatedly on their feet each time trying a little harder than before, with the ideas that have been caught in the interval, to strengthen the one point they wish to make.

If the next meeting is not held at Los Angeles it will not be the fault of the Californians. They were very much in evidence and improved every opportunity to persuade the Easterners that it's worth one half of one's life time at least to spend a summer on the Pacific shore. Prof. Earl Barnes, of Leland Stanford, and Prin. Pierce, of the state normal, pushed the claims of Los Angeles with particular vigor. They have the consolation of having turned the majority of votes in the "snap meeting" of the board of directors in their favor. The decision of the executive board is expected in January, 1896.

"Please let me have your state badge?" was a request put to almost everyone *masculini generis* who looked as if he might part with his decoration after a little coaxing. Wonder whether crazy quilts are to be used in geography lessons in towns where the school board is too "economical" to buy a wall map of the United States.

Prof. C. C. Van Liew, of the Illinois state normal university, is a vigorous and resourceful speaker and skilled in the art of sharp pedagogical debate. His paper on "Culture Epochs," was one of the best contributions to the Denver meeting.

"Which one of the two McMurrys is the stronger one?" was a question that came up several times in conversation with men on the lookout for institute lecturers. Opinions varied. Both brothers are clear thinkers and ready and forcible speakers, both are energetically working for the advancement of scientific pedagogy; both are firm believers in Ziller's development of Herbart's pedagogics, both are loyal and enthusiastic followers of Prof. Rein in whose seminary at Jena they laid the foundation of their present pedagogic faith; both have added valuable contributions to pedagogic literature. Prof. Chas. A. McMurry has devoted himself particularly to an adaptation of Rein's Theory and Practice of Common School Pedagogics, while his brother at Buffalo has organized a promising university school of pedagogy connected with a model practice school after the pattern of Rein's department of pedagogy at Jena.

Supt. Thomas M Balliet, of Springfield, was an interested listener in the memorable debate between Dr. John S. Clarke and Col. Parker. It seems that none of the many association officers discovered him in time to persuade him to contribute an address. It is true no superintendent is more pressed with work than he, but there is no doubt that he would have consented to say a few words on a subject of really vital interest. Teachers who attend the N. E. A. meetings want to hear all of the distinguished educational leaders who are present. There are not so many of them that there is danger of overloading the program.

The art department held most interesting meetings. The discussions have been already spoken of in THE JOURNAL of July 27. There is promise that next year there will be still greater attractions. Mr. Walter S. Goodnough, of Brooklyn, who was elected president of the department is a tireless worker and a resourceful manager.

The physical training people now have their own department in the N. E. A. Many are curious to know what their first program will bring. Wonder whether there will be more wrangling on faction lines than there is in the Herbart Society? The German, Greek, Ling, and Delsarte systems and their modifications, combinations, adaptations all have ardent advocates who will jealously watch whether there are any favors shown. It is hoped that the discussions will keep below the snow and ice line. The anthropometical enthusiasts are apt to fight for a monopoly of the talking. But then the department has a sensible and broad-minded president, and a woman at that. Miss Anna Morris, of Cleveland, will hold the chair and that means that a rich, varied and solidly helpful program will be provided. There is probably no woman who has done so much for the promotion of sound physical training in public schools as she. Success to the new department!

Five hundred members visited Cheyenne, Wyo., and spent four hours visiting points of interest about the city. They were taken in carriages to Fort D. A. Russell, four miles from the city. The department of public instruction, of which Miss Estelle Reel is superintendent, was the office which all were most interested in visiting. Much surprise was expressed when it was learned that during the absence of the governor from the state, his eighteen-year-old daughter was in charge of the office, being to all intents and purposes the acting governor of the state.

WILL THEY WAKE UP?

The N. E. A., or rather those who stand highest in its councils, appear to be deliberately slighting the university schools of pedagogy. Last year there was an opportunity to give prominent mention to the usefulness of such institutions, but it was neglected. THE JOURNAL called attention to it at the time and a discussion arose that gave promise that the omission would be made good at the Denver meeting. But not one of the speakers before the general association made a move to have the idea of university schools of pedagogy officially endorsed, although there was again offered a splendid chance in the symposium on "The instruction and improvement of teachers now at work in the schools." It might have been said, for instance, that it is a good plan for school boards to select one of their teachers who possesses the qualities of leadership and takes a lively interest in the study of pedagogical literature to take the higher courses offered by the university school of pedagogy, say for one year, receiving his full salary while studying, on condition that he will remain in the employ of the board for a stated time after his return and take the part of instructor in the local teachers' classes. But nothing of the kind was proposed. The university school of pedagogy does not seem to exist for the N. E. A. which ought to be the first organization to lend its aid to educational movements of far-reaching importance.

But there is hope at last that an official recognition of the university school of pedagogy will be forthcoming in the near future, Dr. Edward R. Shaw, dean of the New York university school of pedagogy, the first institution of its kind in the world, missed no opportunity to acquaint the leaders with the character of the work carried on by the faculty of which he is the head. This quiet and modest, but forcible presentation of the just claims of the movement had a telling effect. It was quite new to some who ought to be well informed concerning educational progress in this country that there was an institution where pedagogy was made the center to which all other related sciences were made to contribute, where rational and experimental psychology, physiology, ethics, esthetics, and sociology, were treated with especial reference to education, and where institutes of education, history of education, pedagogical bibliography, systems of education, history of philosophy, and original research were among the courses offered to students. The entrance requirements and the work required to obtain degrees in pedagogy were another surprise to them. No wonder that many joined in THE JOURNAL'S question, why did the N. E. A. neglect to call attention to the importance of the movement begun with the establishment of the first university school of pedagogy.

Meanwhile, the movement has grown anyway and soon there will be in this country quite a number of universities having special colleges of pedagogy. THE JOURNAL has already spoken of the school established in the University of Buffalo. The vigorous and enthusiastic Herbartian scholar, Prof. Frank McMurry is its dean. He has organized the college much after the plan of the pedagogic seminary of Professor Rein at Jena. A liberal course of study has been planned. A school of observation and practice will be carried on in connection with the work. The best available men and women have been invited to chairs in the new institution. The young institution will start in the fall with the best of promises for a bright future.

The great University of Chicago is also contemplating the establishment of a school of pedagogy. A chair of pedagogy has already been founded. Prof. C. H. Thurber, editor of the *School Review* and until now principal of Colgate academy, Hamilton, N. Y., will occupy it in the fall. It was whispered about in the lobby of the Brown Palace Hotel that Cornell university also is thinking of founding a school of pedagogy. What Pennsylvania, Yale, and Harvard, and the other great universities will do is as yet a matter of conjecture. But it is almost certain that they also will in the near future come around to the recognition of teaching as a profession, fully equal in rank to medicine, law, and theology, and deserving to be made the subject of investigation in a special university school.

Will the N. E. A. go on record as having failed to lend a hand to the inauguration of so important a movement? The university school of pedagogy has come to stay.

(These Notes will be concluded in the next issue of THE JOURNAL)

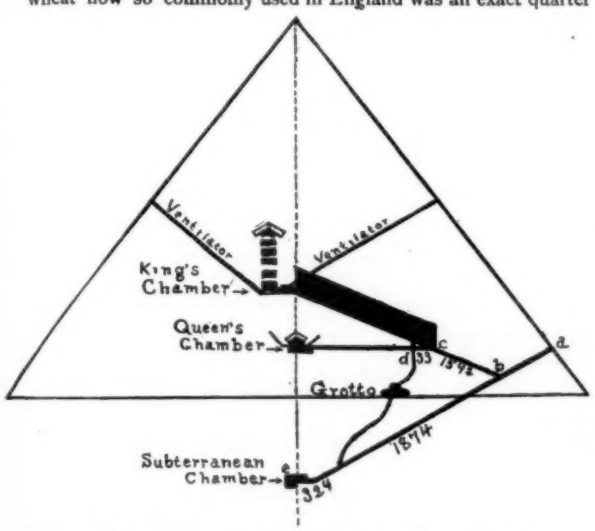
Letters and Queries.

A good many of us Western teachers were drawn, against our wishes, into the debate over the silver question last year. There has been a great change since it has been debated. I have taken no side in the matter, as it would not have been safe for me. I keep saying I do not approve of using any dollars but those really worth what they claim to be; this is the ground of the "honest money" people. There are those that think anything with a stamp on it may go for a dollar. I have advocated with these the use of aluminum as that is so light. Why is it that our currency is less stable than England's? They do not debate money, at all, and have plenty of gold, and yet do not raise as we will a thousand millions of dollars each year in crops! E. V. G.
Denver.

[We have a vicious monetary system; Congress is not competent to handle the question. The teachers should unite their voices with others in demanding a "Monetary Commission" to overhaul our present one. In the high school the teacher can explain our system just as he can explain our constitution. The great defect is that there is a vast number of legal tenders to be redeemed on demand and which must be issued again; Congress insists on this. For various reasons Europe began to be suspicious of us, that we would pay the securities she holds in silver, and so a great many of these were sent back and sold here and the gold taken away. We are a rich nation, but have a vicious money system. Let the high school boys and girls understand the situation. ED]

In a lecture delivered last winter it was said that the great pyramid of Jeezeh in Egypt was a prophecy in stone relating to the most important events in the world's history. I had supposed the pyramids were burial places, but the lecturer said that it was constructed under the direction of Melchisedek, and that it represents the plan of God respecting this world, a record of the secret plans of the Creator. The lecture was very interesting; I want to know if this interpretation is generally accepted?
La Porte. MORGAN TAYLOR.

Prof. C. Piazzi Smyth, of Scotland, wrote a book called "Our Inheritance in the Great Pyramid" which attracted a great deal of attention at the time. He claimed that the stone casket in the interior was in reality a wheat measure; and that the pyramid was built as a place to store this measure; that the "quarter" of wheat now so commonly used in England was an exact quarter



of wheat this stone casket or bin would contain. As no mummy was found in this pyramid many conjectures have been made as to the reason of its erection. Some claim that it represents the plan of the Creator. They say the descending passage from the entrance represents the course of the world in which evil rules; where in the ascending passage the grand gallery begins (*c*) denotes the birth of Jesus; from here to the "well" (*d*) is 33 inches, this indicates his death; from (*c*) to (*b*) is 1542 inches which they say means so many years B.C.; from (*b*) to (*e*), the subterranean chamber, is 1874 inches or years, which shows that from 1542 B.C. to 1874 A.D., that many years are required—this indicates that that year is the beginning of trouble which is to last for forty years, or to 1914, when the millennium will begin.

All the above and much more will be found in the works of believers in the near approach of the millennium. It is thought by Egyptologists to have been constructed as a burial place.

In your JOURNAL p. 595 of June 1, 1895, there is a curious blunder. In what seems to be an extract from the Brooklyn *Eagle* Cantharides seems to be referred to as an ancient philosopher. There is no such person, and if you will look in the Dictionary you will find that Cantharides is another name for "Spanish Flies." I have never heard of this before except in a joke to show the ignorance of some pretenders to knowledge who "Sigh with Socrates, potter with Plato and cant with old Cantharides." As you make no remark about this, I presume it escaped your observation.
521 W. 161 street, New York. JOHN MACMULLEN.

What words beside wigwam and squaw have been adopted from the Indian language into ours? R. V. G.
Houston.

This is a pretty complete list, it is believed: caribou, chincapin, chipmunk, hominy, humbo, moccasin, moose, mugwump, musquash, netop, opossum, pappoose, persimmon, pipsissewa, pone, quahaug, sachem, sagamore, samp, sannop, sassafras, skunk, squaw, squeteague, squash, succotash, tautog, toboggan, tomahawk, totem, wampum, wigwam. Of these thirty-two humbo (maple syrup), netop (a crony), sannop (a brave), squeteague (weak fish) are not much used now. Mugwump (a chief) has come into prominence, but has the meaning of bolter attached to it.

Your "Annual" of THE SCHOOL JOURNAL is an exceedingly excellent number. I believe it is better than any former similar issue. The articles "The Aim, Means, and Method," "Religion in Common Schools" (Seeley), "Correlation and Concentration" (O'Shea), "The School Curriculum" (Buchner), "National Ed. Assoc." (Richards), are especially valuable. The reports of committees of Ten and Fifteen are also of rare merit.

Get teachers in line and keep on as you have been going. I have read THE JOURNAL every week since I began to teach.
Red Bluff, Cal. Prin. J. D. SWEENEY, Pres. Co. Bd. Ed.

I found an article in *Harper's Young People* stating that "had rather" should be "would rather." Is it considered ungrammatical to say "had rather"? E. F. T.
Zanesville.

This form is good, sound English; it is used by Shakespeare, Addison, Macaulay, and all good writers. Many of the other forms you enclose are bad English. "Try and go," "cunning" for smart; "like I do," for as I do; "feel badly," for feel bad; "feel good," for feel well; "expect," for suspect; "nice," or "real nice" used indiscriminately; "funny," for odd or unusual; "seldom or ever," for seldom or never; "more than you think for," more than you think; "nicely," in answer to a question as to health; "just as soon," for just as lief; "guess," for think; "fix," for arrange or prepare; "real good," for really good; "try an experiment," for make an experiment; "it storms," for it rains or it blows; "not as I know," for not that I know; "every man or woman should do *their* duty;" "a party," for a person; "healthy," for wholesome.

Who gives the right of copyright? To whom shall I apply to get a book copyrighted. E. F. G.

The librarian of the Congressional library, to whom applications for copyright are made, is compelled under the law to record a copyright for anything brought to him. The person applying for a copyright may be or may not be the author. It has happened frequently that some of an author's earlier productions have been copyrighted by some one else. Sometimes large profits have been gathered by these means. The Declaration of Independence has recently been copyrighted, although it has often been republished in fac-simile, and the Bible is copyrighted every little while as new editions are brought out.

What is the meaning of the phrase demonetization of silver. And how did this work the injury claimed by so many politicians? F. L.
Quincy, Ill.

Gold and silver were both coined by the government and both were legal tender for debts up to 1873; then gold was made the standard. It worked no injury at the time; we had been using a depreciated paper, and when in 1873 specie payment was resumed of course prices which had been quoted in paper went down, because a more valuable dollar than the paper dollar was employed. As soon as things were adjusted to the specie basis good times set in. To please the owners of silver mines Congress bought silver and coined dollars and we have about ten dollars in silver for every man, woman, and child in the country. There are people in the West who think "free silver" means silver free, all you want of it. In one place it seems the people of one town have selected a man to go to Washington and bring up the share to be allotted them! The real reason of the demonetization of silver was to prevent foreign countries from sending their useless silver here and taking away our gold. "Its chief effect was to prevent workmen from being paid in silver;" it was a most benificial law.

No teacher who proposes to keep abreast of the times in his profession can afford to be without THE JOURNAL.
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New Books.

For reading in school and college classes the volume of selections from P. K. Rosegger's *Waldheimat*, with introduction and explanatory notes, by Laurence Fossler, A. M., professor of Germanic languages, Univer.ity of Nebraska, will be found of interest and value. Rosegger is a writer of much charm and power, with a strong, clear diction. He depicts the simple life about him, striking a common chord of sympathy. (Ginn & Co., Boston.)

The edition of Cicero's *De Oratore* in the Students' Series of Latin Classics, edited by Prof. W. B. Owen, of Lafayette college, is based upon the text of Sorof, with some change in orthography and punctuation, and a few slight differences in reading. Use has also been made of the introduction, which covers some thirty-five pages; it covers the historical features of the work about which the enquiring student would like to be informed. In the commentary the editor has made such omissions, additions, and adaptations as seemed called for by the needs of those students for whom the work was especially designed. (Leach, Shewell & Sanborn, New York, Boston, and Chicago.)

An easy and concise method of learning the *French Verbs*, regular and irregular, is given by Charles P. Du Croquet in a volume of forty-seven pages. By this method the formation of the tenses is learned by means of the stem and endings; also the principal parts. Drill on these features enables the student to remember this most difficult part of French grammar. (Wm. R. Jenkins, 851 Sixth avenue, N. Y. 35 cents.)

The authorized translation of Th. Ribot's well-known treatise on *The Diseases of Personality* will be welcomed by students of mental science. Although a scientific presentation of the subject, it is of interest to the general reader, on account of the many illustrations given. The main divisions of the subject treated are organic disorders, affective disorders, disorders of the intellect, and dissolution of personality. (The Open Court Publishing Co., Chicago. Paper, 25 cents; cloth, 75 cents.)

The little book on *Analysis and Parsing*, by Martha R. Orne, will not only help the student acquire the elements of grammar. but will enable him to become acquainted with numerous scraps of the best literature. The selections have been made with great care, and classified so as to illustrate various sentences and the grammatical relations of words. It is designed to be used as a supplement to any grammar. (Lee & Shepard, Boston.)

The writer remembers how he was compelled to memorize the spelling of long lists of words, and then stand up in the class and parrot them to the teacher. The exercise was a bore and he rebelled against it. Happily the teachers are learning more logical methods of teaching spelling. One of these is given in *Intelligent Spelling*, a book of the Kilburn series. The words are here classified; that is, all those relating to an object, as the body, a school, the world, etc., are given and thus the pupil obtains an idea of their use. The vocabulary is arranged in several grades and includes the English words most in use. One feature of the book consists of specimens of sentences containing the words of the classified lists. (James Pott & Co., 114 Fifth avenue, N. Y. 50 cents.)

The extraordinary popularity of Joseph Viktor von Scheffel's *Der Trompeter von Sakkingen* is shown by the fact that in 1891 it had reached its 190th edition, a rate of more than five editions a year since its first edition. This is not strange since the poem depicts, with vividness and truth, German life in the seventeenth century in a locality where the manners, customs, and ideas had remained several centuries behind the rest of the world. An edition of this extraordinary poem has been published with notes and introduction by Mary A. Frost, of the German department, Smith college. (Henry Holt & Co., New York.)

The greater thoroughness of preparation in algebra required for admission to colleges and schools of science has led to a revision of the *Elementary Algebra* of H. S. Hall and S. R. Knight, by F. L. Sevenoak, assistant principal of the academic department of Stevens institute of technology. A great deal of additional matter has been added and many changes of the original chapters made. A chapter on general theory of equations has been included, in accordance with the general plan of this revision. (Macmillan & Co., New York. $1.10.)

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CHICAGO, Aug. 31, 1894.
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New Books.

Some of the most interesting subjects in physics are considered in the (illustrated) *Popular Scientific Lectures* by Ernst Mach, professor of physics in the University of Prague translated by Thomas J. McCormack. Among these are the forms of liquids, the causes of harmony, the velocity of light, why has a man two eyes? symmetry, conservation of energy, etc. The lectures extend over a period from 1864 to 1894. What few repetitions occur, in the way of examples and quotations, have been retained, as throwing additional light on the topics they are designed to illustrate. (Open Court Publishing Co., Chicago.)

The new edition of *Webster's Academic Dictionary* is an entirely new book abridged from "Webster's International Dictionary," but care has been taken to preserve the features of former editions that have made them valuable and popular. The changes consist principally in the increase of the amount of matter, the improvements in typography, the method of indicating pronunciation, the use of new and better illustrations, etc. It has been the special purpose in the present revision to meet the demand made by teachers and by students at colleges, academies, and high schools for a reliable dictionary of ready reference, giving etymologies, pronunciations, definitions and synonyms, comprehensive and authoritative yet concise, and at the same time to adapt the book to the needs of the office and the counting-room. (American Book Co., New York, Cincinnati, and Chicago; G. & C. Merrian Co., Springfield, Mass. $1.50.)

Koradine is the story of a young girl's experience told by a series of letters to her friends, written by Alice B. Stockham, M.D., and Lida Hood Talbot. It is one that will not only interest young people, but will benefit them as the tone is good and many hints are given for solving the perplexities that young people meet in life. (Alice B. Stockham & Co., Chicago.)

Those who have read H. A. Guerber's book on the "Myths of Greece and Rome" will be glad to learn that he has written another volume treating of *Myths of Northern Lands*. While these northern myths are not as beautiful as those of Greece and Rome their humor and tragedy make them fully as attractive. They are of special value to us as showing what moral and religious ideas our ancestors had among their forests and their ice-bound fiords. The author has treated his subject in a fresh and attractive way and has made frequent quotations from the poets' versions of these old tales. The chapters on Odin, Frigga, Thor, Tyr, Frey, Freya, and others give a vivid idea of the Teuton's conceptions of those old divinities. The book is beautifully illustrated with representations of gods and heroes, and reproductions of photographs of Scandinavian scenes and of famous paintings. (American Book Co., New York, Cincinnati, and Chicago. $1.50.)

Longmans & Co. have in the press a new volume of poems by Sir Edwin Arnold, to be entitled *The Tenth Muse*.

The *Christina Rossetti Birthday Book* announced in England by Macmillan & Co. has been compiled by Olivia Rossetti, eldest daughter of W. M. Rossetti.

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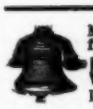

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Publishers' Notes.

Since the school boards have been furnishing books for children, one of the heaviest items of expense is for books, and hence any device that helps to preserve them is valuable. Most of the readers no doubt have heard of the Holden System for Preserving Books. It is intended primarily to apply to school books, but it may be used for other books as well. A substantial cover is provided and provision is made for repairing mutilated copies. This system is in use in hundreds of places. Write to the Holden Patent Book Cover Co., Springfield, Mass., for samples and information.

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In OUR TIMES for September will be found an unusual amount of interesting matter. The leading article relates to the recent political change in England and contains portraits of Queen Victoria, Lord Salisbury, and A. J. Balfour. The facts in connection with the knighting of several noted Englishmen recently are detailed, and the portraits of Henry Irving and Lewis Morris given. The war in Cuba, the massacre in China, and the Indian trouble are described and illustrated. Among the portraits are those of Judson Harmon, the new attorney general; Emily Faithfull editor and lecturer, and Col. H. L. Abbot, the celebrated military engineer. There is a summary of news for the past three months, besides a condensed presentation of other leading events during that time. OUR TIMES has taken the leading place as the teacher's and pupil's paper on account of its impartiality, conciseness, and general attractiveness.

An interesting announcement to the teachers is made by the University Publishing Co., 43 East Tenth street, N. Y. They will shortly begin the publication of a Standard Literature Series for school reading, the numbers of which will be issued semi monthly. The early numbers will contain Rhymes and Fables, Songs and Stories, Fairy Life, Ballads and Tales, Cooper's Spy and Pilot, Scott's Rob Roy and Kenilworth, Longfellow's Evangeline, etc.

A new and enlarged edition of that famous collection of English literature, The Heart of Oak Books, edited by Prof. Charles Eliot Norton, of Harvard university, has been issued by D. C. Heath & Co. These books have been prepared for supplementary reading.

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Literary Notes.

Two on a Tower is the next volume to be published by the Harpers in the new edition of Thomas Hardy's novels, each volume containing an etched frontispiece. "Far from the Madding Crowd," "The Mayor of Casterbridge," and "A Pair of Blue Eyes" have been previously announced.

During the coming school year, Houghton, Mifflin & Co., of Boston, New York, and Chicago, will issue eighteen numbers of their famous Riverside Literature Series. The September numbers will contain Holmes' *Autocrat of the Breakfast Table* and Hawthorne's *Twice Told Tales*.

An authorized translation of Paulsen's *Introduction to Philosophy*, prepared by Prof. Frank Thilly of the University of Missouri, with a preface by Prof. William James, of Harvard, is to be published immediately by Messrs. Henry Holt & Co.

"Twenty-five Letters on English Authors," by Mary Fisher, will soon be published by S. C. Griggs & Co. The work treats of those eminent writers who for more than five hundred years have most influenced the thought of the world. The author attempts to make the reader acquainted not only with the character of their works, but, what is of greater interest, with them as men—what they felt and believed, their way of looking at life, and their experiences.

The author of "*Preston Papers*," whose articles are well known to readers of THE JOURNAL, has an article in the June *Arena* on "Boston Schools and Teachers."

H. M. Alden, the editor of *Harper's Monthly* and author of *God in His World*, will bring out later in the year a volume to be entitled *A Study of Death*.

Walter Blackburn Harte, whose *Meditations in Motley*, has been attracting considerable attention, has been quite ill lately from overwork. He is an associate editor of *Moods*, the Philadelphia quarterly, besides being on the staff of the *Arena*.

The Century Company will issue this autumn *Life in Tuileries Under the Second Empire*, by Miss Anna N. Bicknell, an Englishwoman who was governess to the future Duchesse De Tascher de la Pagerie and lived at Tuileries many years, knowing the empress with some intimacy.

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G. P. Putnam's Sons have in press an answer to *Coin's Financial School*, by Everett P. Wheeler.

Ginn & Co. have just ready a *Short Constitutional History of England*, by Henry St. Clair Feilden.

The first volume of the Blaine biography will be issued soon. Before Gail Hamilton was taken ill the work had been revised down to the close of the Minneapolis convention, and the remaining chapters, except part of the last, had all been written. When it became evident that delay would result from her illness, Mrs. Harriet Prescott Spofford was called upon to revise the final chapters, with the approval of Mrs. Blaine.

Henry Altemus, Philadelphia, will publish at once a new edition of *Vic; The Autobiography of a Fox Terrier*, by Marie More Marsh.

Magazines.

Mrs. Humphry Ward's new novel, upon which she has been at work for the past two years, will be called "Sir George Tressady." It will appear as a serial in *The Century*, beginning with November.

The Colonial Magazine is the name of a new publication devoted to our early history, published by Bosworth, Hyde and Hyde, at 114 Fifth avenue, N. Y.

Frederic Harrison will conclude his *Forum* paper on "The Great Victorian Writers," with an article in the September number on George Eliot. A paper on Huxley, by R. N. Hutton, editor of *The London Spectator*, will be printed in the same number. Theodore Roosevelt has written for it a paper on "The Enforcement of the Law."

Dodd, Mead & Co. announce that on and after the issue of the next number of *The Bookman* (which will be the first of a second volnme), the date of publication will be changed to the 25th instead of the 15th of the month. The next number, published on Aug. 25, will be the September number, "but as this would seem to omit entirely the August number, it will be called August-September; it will not be a double number, for subscribers for the year will receive, notwithstanding this change, twelve numbers."

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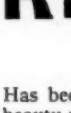

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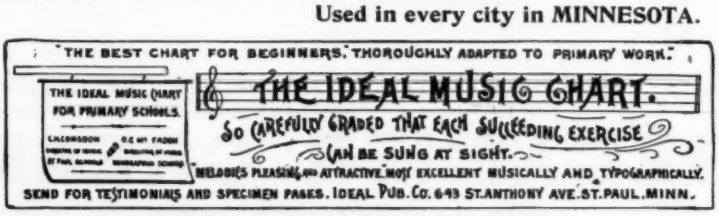
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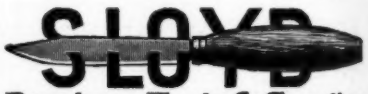

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